# HCD-H170/H170K/H700

# SERVICE MANUAL

HCD-H170, HCD-H170K and HCD-H700 are the tuner, deck, CD and amplifier section in FH-B170/B177, FH-B170K and MHC-700 respectively.

**PHOTO: HCD-H170K**

*AEP Model*
*HCD-H170/HCD-H700*
*UK Model*
*HCD-H700*
*E Model*
*HCD-170/HCD-170K*
*Australian Model*
*East European Model*
*HCD-H170*

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ⊡⊡ are trademarks of Dolby Laboratories Licensing Corporation.

## SPECIFICATIONS

| | | | |
|---|---|---|---|
| CD Section | Model Name Using Similar Mechanism | | NEW |
| | CD Mechanism Name | | CDM13B-5BD4A |
| | Base Unit Name | | BU-5BD4A |
| DECK Section | Model Name Using Similar Mechanism | | NEW |
| | Tape Transport Mechanism Type | DECK A | TCM-190RA13A |
| | | DECK B | TCM-190RB22A |

### Tuner section
FM stereo, FM/AM superheterodyne tuner

### FM tuner section
Tuning range 65.0-74.0MHz (East European)
87.5-108MHz
Antenna FM lead antenna (HCD-H700)
Telescopic antenna (HCD-H170, H170K)
Antenna terminals
75 ohm unbalanced
Intermediate frequency
10.7 MHz

### AM tuner section
Tuning range
AEP, Germany, Italian, East European
MW: 531 — 1,602 kHz
LW: 153 — 279 kHz
E, Saudi Arabia, Australian model
MW: 531 — 1,602 kHz
SW: 5.95 — 17.9 MHz
Italian model
MW : 522-1.611kHz
LW : 144-288kHz
Antenna AM loop antenna
External antenna terminals
Intermediate frequency
450 kHz

### Amplifier section
Continuous RMS power output
25 + 25 watts (6 ohms at 1 kHz, DIN)
Peak music power output
(E, Saudi Arabia, Australian model)
280 watts (4 speakers driven)

Inputs
For HCD-H170K
MIX MIC 1 and MIX MIC 2 (minijack): Sensitivity 1 mV, impedance 600 ohms
PHONO (phono jack): sensitivity 5 mV, impedance 47 kilohms
For HCD-H700
HCD-H170 (AEP, Germany, Italian, East European)
MIX MIC (minijack): Sensitivity 1 mV, impedance 600 ohms
PHONO (phono jack): sensitivity 5 mV, impedance 47 kilohms
For HCD-H170
(E, Saudi Arabia, Australian)
MIX MIC (minijack): Sensitivity 1 mV, impedance 600 ohms
Outputs
VIDEO/AUX (phono jack): sensitivity 5 mV, impedance 47 kilohms
HEADPHONES (stereo minijack): accept headphones of 8 ohms or more.
SPEAKERS: accept impedance of 6 to 16 ohms.

### Compact disc player section
System Compact disc digital audio system
Laser Semiconductor laser ($\lambda$ = 780 nm)
Emission duration: Continuous
Laser output Max. 44.6$\mu$W*
* This output is the value measured at distance of about 200 mm from the objective lens surface on the Optical Pick-up Block.
Signal-to noise ratio More than 95dB
Dynamic range More than 90 dB

### Cassette deck section
Recording system
4-track 2-channel stereo
Frequency response
(DOLBY NR OFF)
60 — 13,000 Hz (±3 dB), using TYPE I cassette (Sony HF-S)
60 — 14,000 Hz (±3 dB), using TYPE II cassette
Wow and flutter
0.1% WRMS ±0.3% (DIN)

– continued on next page –

## COMPACT DISC DECK RECEIVER

SONY®

MICROFILM

**Speaker section**

| | |
|---|---|
| Speaker system | 3 way system |
| Speaker units | |
| | Woofer: 13 cm dia., cone type |
| | Tweeter: 5 cm dia., cone type |
| | Super tweeter: 2 cm dia., dome type |
| Enclosure | Bass reflex |
| Frequency range | 60 Hz — 20 kHz |
| Sensitivity | 88 dB/w/m |
| Rated impedance | 6 ohms |
| Dimensions | Approx. 195 × 285 × 230 mm (7 5/8 × 11 1/4 × 9 inches) |
| Weight | Approx. 3.0 kg (6 lb 10 oz) net per speaker |

**General**

| Destination | Power requirements | Power consumption |
|---|---|---|
| AEP, Italian, Germany, East European model | 220-230V AC, 50/60 Hz | 80 watts |
| UK model | 240V AC, 50 Hz | 160 watts |
| E, Saudi Arabia Australian model | 100V-120V or 220V-240V AC adjustable, 50/60Hz | 80 watts |

Dimensions
Approx. 225 × 285 × 268 mm (w/h/d)
(8 7/8 × 11 1/4 × 10 5/8 inches)
incl. projecting parts and controls

Weight
Approx. 6.2 kg (13 lb 11 oz)

Accessories supplied
AM loop antenna (1)
Remote commander (1)
Sony SUM-3 (NS) batteries (2)
FM lead antenna (1) (HCD-H700 only)
Speaker cords (2)
(HCD-H700, except for the UK model)

Design and specifications subject to change without notice.

**Note**
This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT label is located on the rear exterior.

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SAFETY-RELATED COMPONENT WARNING!!

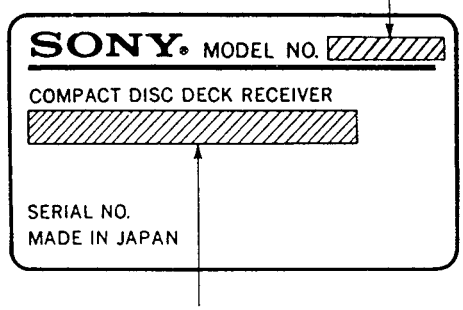
COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

# SECTION 1
# SERVICING NOTES

## MODEL IDENTIFICATION

*— Specification Labels —*

HCD-H170
HCD-H170K
HCD-H700

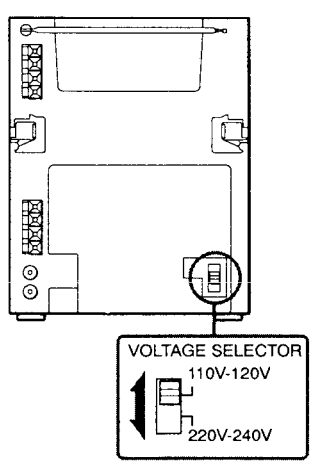



AEP, Germany, Italian, East European model : AC : 220-230V~50/60Hz 80W
E, Saudi Arabia Australian model : AC : 100-120/220-240~50/60Hz 80W
UK model : AC : 240V~50Hz 160W

**On operating voltage**

Before operating the stereo system, check that the operating voltage of your system is identical with the voltage of your local power supply.

| | |
|---|---|
| AEP, Italian, Germany, East European model | 220-230V AC, 50/60 Hz |
| UK model | 240V AC, 50 Hz |
| Saudi Arabia, Australian model | 100V-120V/220V-240V AC, adjustable, 50/60Hz |




## Battery Installation

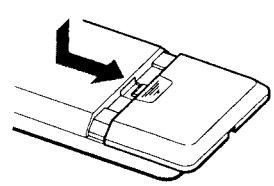
Install the two R6 (size AA) batteries in the supplied remote commander for remote control operation.

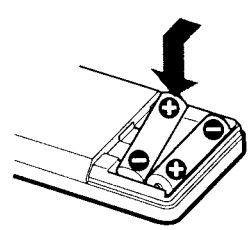
**Battery life**

About half a year of normal operation can be expected when using the Sony SUM-3 (NS) batteries.
When the batteries are exhausted, the commander cannot operate the stereo system. When this happens, replace both batteries with new ones.

**To avoid battery leakage**

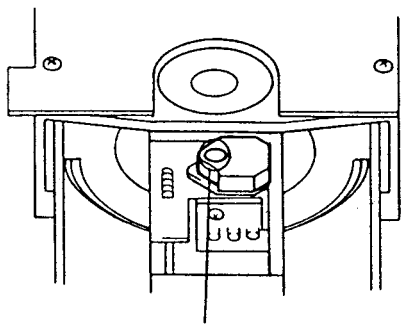
If the commander is not to be used for a long time, remove the batteries to avoid damage caused by battery leakage and corrosion.





## LASER DIODE AND FOCUS SEARCH OPERATION CHECK

1. Make POWER switch on with no disc inserted and disc table closed.
2. Confirm that the following operation is performed while observing the objecting lens.



❶ Confirm that laser beam is spread.
❷ Up and down motion of the objective lens. (3 times)

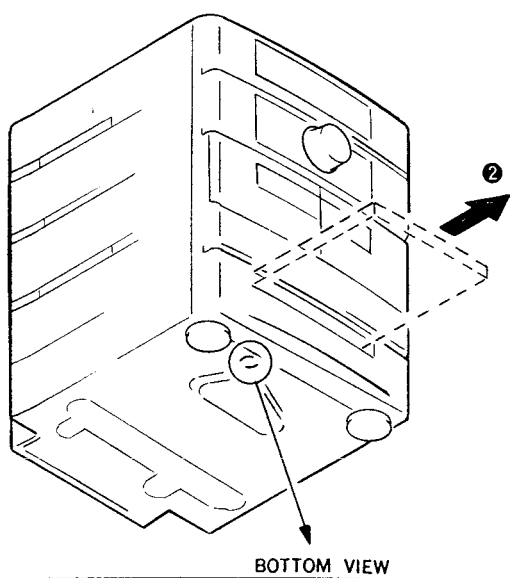
## NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

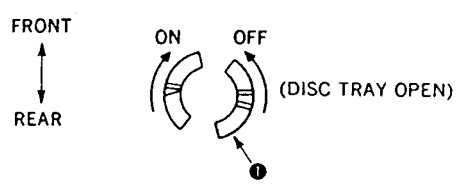
The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

## NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

## HOW TO OPEN THE DISC TRAY WHEN POWER SWITCH TURNS OFF



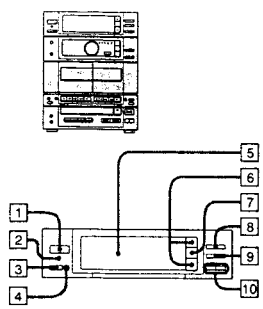




(1) Insert to ❶ for tapering driver, etc., and turn in the direction of arrow OFF. (Disc tray open)
(2) Tray as come out little of front panel, pull out in the direction of arrow ❷ by hand.

# SECTION 2
# GENERAL

This section is extracted from instruction manual.

A

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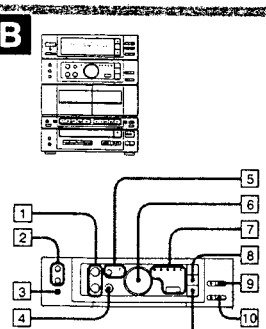
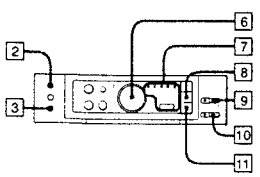



FH-B170K




FH-B170/B177
MHC-700

## Parts Identification

Refer to the pages indicated in parenthesis for use of the buttons.

### Tuner Section A

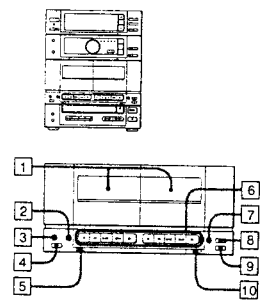
1 POWER ON/STANDBY switch
2 Remote sensor
3 TIMER button (100)
4 TIMER REC button (104)
5 Display window
6 PRESET/TIMER +/– buttons (52, 100, 104)
7 BAND button (48)
8 MEMORY/NEXT button (52, 100, 104)
9 STEREO/MONO button (50)
10 TUNING +/– buttons (48)

### Amplifier Section B

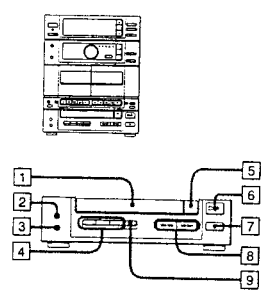
1 MIC (microphone) 1 and 2 LEVEL controls (only for FH-B170K) (112)
2 MIX MIC 1 and 2 jacks (for FH-B170K) (112)
MIX MIC jack (for other models) (112)
3 HEADPHONES jack (22)
4 ECHO LEVEL control (only for FH-B170K) (112)
5 MPX (multiplex) button and indicator (only for FH-B170K) (114)
6 VOLUME control (22)
7 PRESET button and indicators (62)
8 FUNCTION button
9 DBFB (Dynamic Bass Feed Back) button and indicator (22)
10 KARAOKE PON (vocal reduction) button and indicator (for FH-B170K) (114)
S-SUR (simulated surround) button (for other models) (22)
11 EQ (equalizer ON/OFF) button (62)



C




D




## Parts Identification

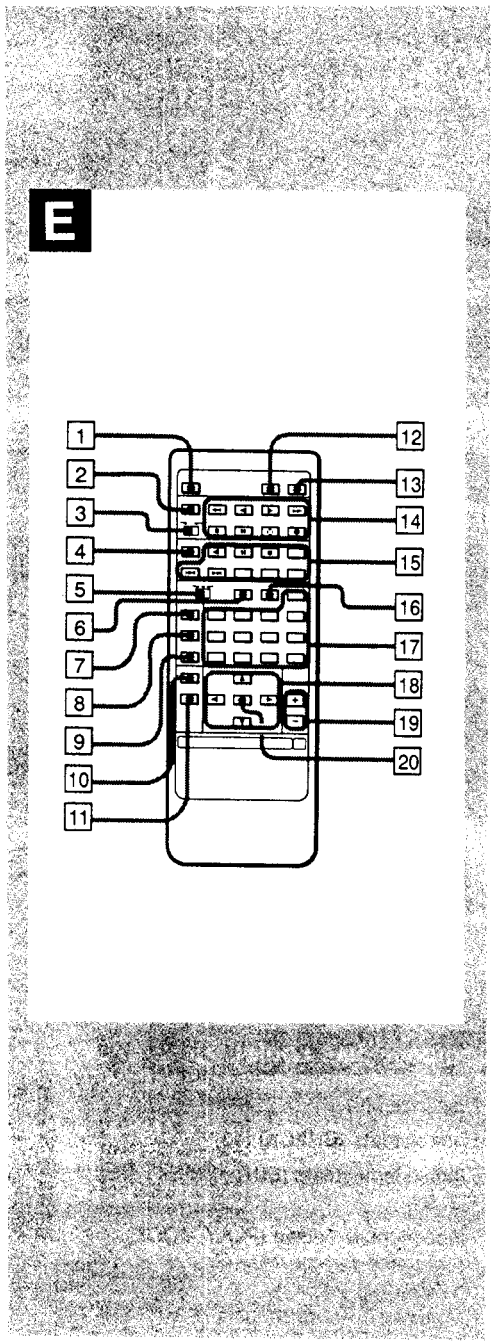
### Cassette Deck Section C

1 Cassette holders
2 HIGH SPEED button (72)
3 CD SYNC button (86, 94, 98)
4 EJECT ▲ button (for deck A) (56)
5 DIRECTION MODE selector (56)
6 Tape operating buttons (for deck A and B)
▶▶ (fast wind and AMS*) button (56)
◀◀ (rewind and AMS*) button (56)
▷: Forward play button and direciton indicator (56)
◁: Reverse play button and direction indicator (56)
■: Stop button (56)
7 REC ● (recording) button
8 PAUSE II button (56)
9 EJECT ▲ button (for deck B) (68)
10 DOLBY NR selector (56)

### CD Player Section D

1 Disc tray (24)
2 CHECK button (42)
3 EDIT/TIME FADE button (78, 90)
4 PLAY MODE buttons
CONTINUE button (38)
SHUFFLE button (38)
PROGRAM button (40, 96)
5 ≙ OPEN/CLOSE button (24)
6 ▷II (play/pause) button (24)
7 ■ (stop) button (24)
8 ⏮◀◀/▶▶⏭ (manual search/AMS*) buttons (26, 96)
9 REPEAT button (32)

* AMS is the abbreviation of Automatic Music Sensor.




# Parts Identification

## Remote Commander E

1 CLOCK DISPLAY button (20)
2 TAPE function button
3 DECK A/B selector
4 CD function button
5 TUNER/EQ/CD selector
6 CHECK button (42)
7 TUNER function button
8 VIDEO function button
9 PHONO function button
10 MEMORY button (66)
11 DBFB button (22)
12 SLEEP button (110)
13 SYSTEM POWER button
14 Tape operating buttons
15 CD player operating buttons
16 CLEAR button (38)
17 TUNER/EQ/CD numeric buttons (28, 62)
18 CURSOR CONTROL buttons (64)
19 VOL +/− (volume control) buttons (22)
20 EQ button (62)

# How to Use This Manual

This manual applies MHC-700 for Europe and the U.K., FH-B177 for Europe, FH-B170 for the U.S.A. and other countries and FH-B170K for other countries. The differences between them are indicated below:

Yes: Equipped No: Not equipped

| Destination | USA | Europe and UK | Other countries |
|---|---|---|---|
| Receivable band | AM/FM | FM/LW/MW | FM/MW/SW |
| PHONO jack | No | Yes | No |
| VIDEO/AUX jack | Yes | No | Yes |

**Equipped antenna for FM reception**
MHC-700: FM lead antenna
FH-B177, B170 and B170K: Telescopic antenna

In this manual, the illustrations of the unit are illustrated as FH-B177.

**How this manual is composed**
Please read the instructions in this manual referring to the illustrations.
- The letters in the illustrations correspond to those in the text: e.g. Speaker Cord Connection A
- The step numbers in the illustrations correspond to those in the text.
- Use the page numbers in "Parts Identification" at the end of this manual as an index to find out how to use the buttons and controls.



# Overview

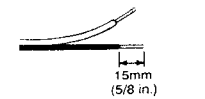
**Tuner section**
- The receivable band stations differ depending on the model where it is destinated for. Please see the table in "How to Use this Manual".
- You can store up to 30 stations (for the USA model) or 40 stations (except for the USA model).

**Amplifier section**
- DBFB (Dynamic Bass Feedback) system reinforces bass sound.
- You can easily adjust the music to your taste by-selecting from 5 factory-preset graphic equalizer settings.
- You can store up to 5 individual settings of graphic equalizer.
- You can select directly the desired program source just by pressing the operation button (BAND, PRESET/TIMER +/–, or TUNING +/– to select the tuner, ▷II to select the CD player, and ◁ or ▷ to select the cassette deck) on the program source equipment. (Automatic Source Selection)

**CD player section**
- You can enjoy listening in various playing modes.
- Edit functions allow you to program selections automatically to fit in a desired duration.

**Cassette deck section**
- Auto-reverse decks enable repeated playback of both sides of the cassette.
- CD synchro function enables easy recording of a CD.
- Double decks enable tape dubbing and continuous playback.



A
1


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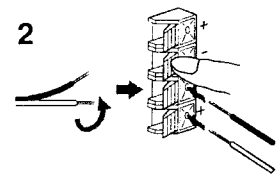
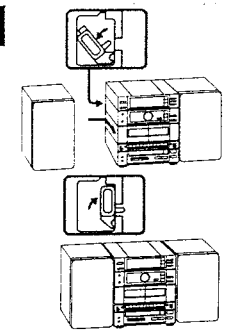
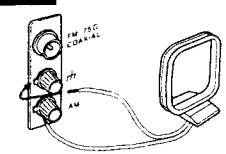
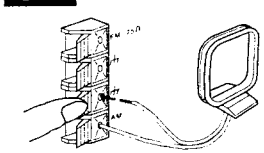


B
1
2


C-1


C-2


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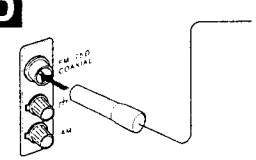




# Connections

**Notes on connection**
- Connect the AC power cord last.
- Cord plugs and jacks are color coded. Red plugs and jacks are for the right channel (R) and white ones for the left channel (L).

## Speaker Cord Connection A

1 Strip 15 mm (5/8 inches) of the speaker cord coating from the end of the cord.

2 Connect the right speaker to R, with the red cord to + and the black cord to –.
Connect the left speaker to L, with the red cord to + and the black cord to –.

## To attach the speakers to the main unit – For FH-B177, B170 and B170K only B

1 Unlock the stopper and slide the speaker so that it hooks to the system.

2 Lock the stopper.

## AM Loop Antenna Connection C

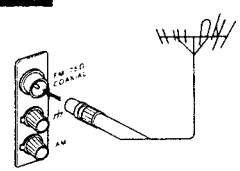
**For the European and U.K. model C-1**

**For the models for other countries C-2**
Connect the supplied loop antenna to the AM and ⏚ terminals.

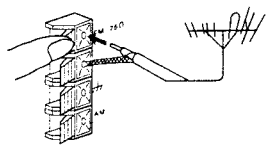
## FM Lead Antenna Connection (MHC-700 only) D

Connect the supplied FM lead antenna to the FM 75 Ω terminal and extend horizontally.

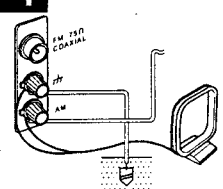
E-1



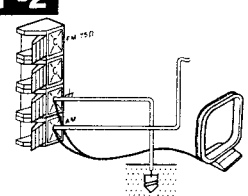
E-2



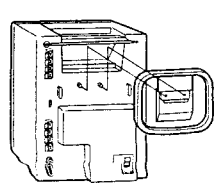
F-1



F-2



G





# Connections

## For Better FM Reception E

**For the European and U.K. model**
**E-1**
Connect the outdoor FM antenna to the FM 75 Ω terminal, using 75-ohm coaxial cable and IEC standard socket connector.

**For the models for other countries**
**E-2**
Connect the outdoor FM antenna to the FM 75 Ω and ⏚ terminals, using 75-ohm coaxial cable.

## For Better AM Reception F

**For the European and U.K. model**
**F-1**

**For the models for other countries**
**F-2**
Use the 6- to 15-meter (20- to 50-feet) insulated wire for connecting the terminal. Connect the ⏚ terminal to a good ground.

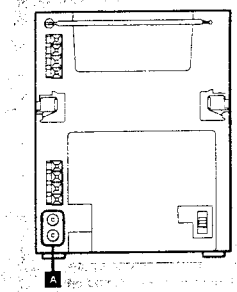
**Important**
When you use an external antenna, be sure to ground it against lightening. Never connect the ground wire to a gas pipe. Doing so is extremely dangerous.

## Power Connection

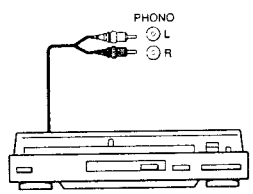
Connect the supplied AC power cord to AC IN and the other end to a wall outlet.

**To attach the AM loop antenna to the main unit in order to carry the unit**
See the illustration. G

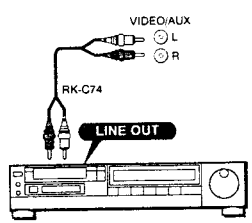





A-1




A-2






# Connections

## Adding Other Components to the System A

**Turntable system A-1**
(For the European and U.K. model)
You can connect a turntable system to the PHONO jacks. To listen to the turntable system, press FUNCTION on the front panel until "PHONO" appears on the display.

**VTR A-2**
(For the model for other countries)
You can connect a VTR, etc. to the VIDEO/AUX jacks. To listen to the connected equipment, press FUNCTION on the front panel until "VIDEO/AUX" appears on the display.

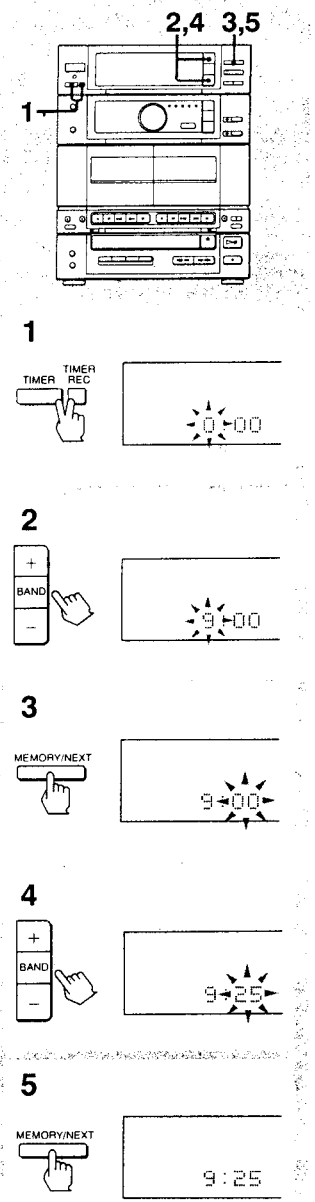
## Changing the MW tuning interval (except for the European and U.K. model)

The MW tuning interval is preset at the factory to 10 kHz for the USA model, and 9 kHz for the models for other countries. If you use the system where the frequency allocation system is different from the preset interval, change the interval as follows:

1 Turn on the power.
2 Tune in any MW station.
3 Turn off the power.
4 Turn the power back on while pressing the TUNING + button.

To reset the interval, follow the same procedure.

**Important**
When the interval is changed, stored stations will be erased from the memory.






# Clock Setting

## Setting the Clock

**Example:** Set to 9:25 in the morning.

1 **Press TIMER and TIMER REC at the same time.**

2 **Set the hour with PRESET/TIMER – or + button.**

3 **Press MEMORY/NEXT.**

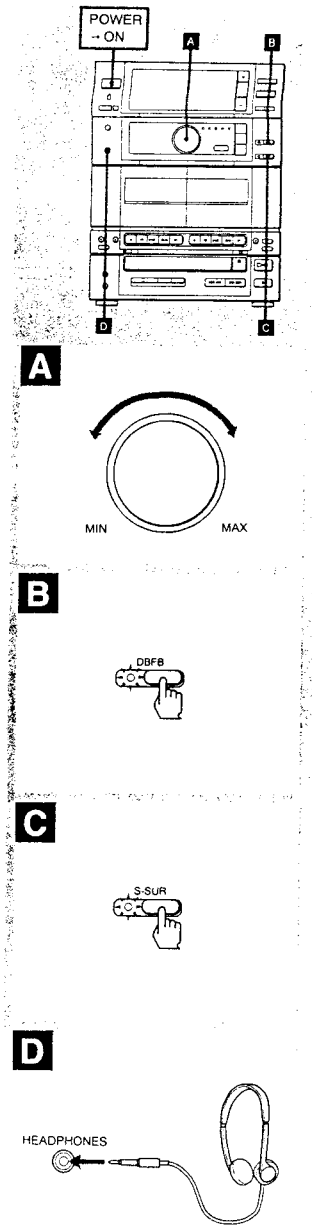
4 **Set the minute with PRESET/TIMER – or + button.**

5 **Press MEMORY/NEXT.**
The clock starts operating.

**Information on the time**
The European and U.K. model shows the time in 24-hour cycle.
The model for other countries shows the time in 12-hour cycle.
AM 12:00 = midnight
PM 12:00 = noon

**When a power interruption occurs**
The clock and timer settings are all erased, and "0:00" ("AM 12:00") will flash on the display.

**To change the frequency display to the time display**
Press CLOCK DISPLAY on the remote commander. The time is displayed for about 4 seconds, then the time display changes into the frequency display.




# Audio Adjustment

## Volume Adjustment A

Turn VOLUME clockwise to increase the sound level, or counterclockwise to decrease it.
(Or press VOL + or – on the remote commander.)

## Sound Quality Adjustment

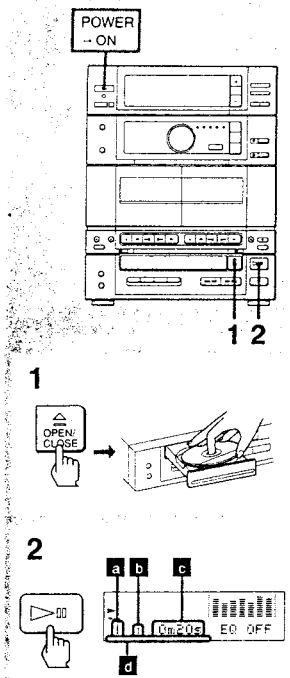
**To reinforce bass B**
Press DBFB*.

**To activate surround effect for stereo sound C**
(Except for FH-B170K)
Press S-SUR** during a stereo sound reproduction. This creates the atmosphere of a movie theater or concert hall. This function is not effective for a monaural sound.
(For FH-B170K)
The KARAOKE PON button is provided here. See page 114.

**For personal listening D**
Connect headphones to HEADPHONES.
No sound comes from the speakers.

*DBFB = Dynamic Bass Feedback
**S-SUR = Simulated surround








# CD Playing

## Playing the Entire Disc

1 **Press ⏏ OPEN/CLOSE to open the tray.**
Place a disc with the printed side up.

2 **Press ⏯. (▶ on the remote commander)**
The tray closes and play starts.

The display shows **a** the current track number, **b** the current INDEX number (of the track), **c** elapsed playing time of the track and **d** track numbers.

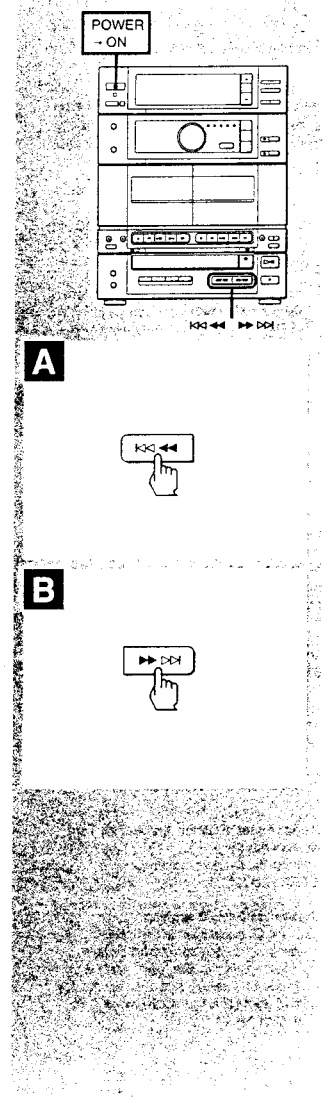
**Caution on adjusting volume**
Do not turn up the volume while listening to a portion with very low level inputs or no audio signals. If you do, the speakers may be damaged when a peak level portion is played.

**To stop play**
Press ■.

**To stop for a moment during play**
Press ⏯ (⏸ on the remote commander). To resume play, press it again.

**To stop play and open the tray**
Press ⏏ OPEN/CLOSE.

**To play an 8 cm (3-inch) CD**
Place it on the inner circle of the tray. If the disc is provided with an adaptor, first remove it. Do not put a normal CD (12 cm/5-inch) on top of an 8 cm CD.






# CD Playing

## Locating a Particular Selection – Automatic Music Sensor (AMS)

The AMS locates the beginning of a selection.

**To locate the beginning of the current or preceding selection A**
Press ⏮⏮⏮ (or ⏮⏮ on the remote commander) as many times as required.

**To locate the beginning of a succeeding selection B**
Press ⏭⏭⏭ (or ⏭⏭ on the remote commander) as many times as required.

## Locating a Particular Point in a Selection

You can locate any particular point in the selection. This function works during play or pause. This operation is impossible with the remote commander.

**To search while monitoring the sound**

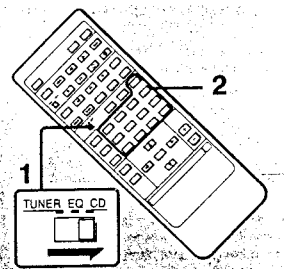
**To move forward at high speed B**
Keep ⏭⏭⏭ depressed and release it at the desired point.

**To move backward at high speed A**
Keep ⏮⏮⏮ depressed and release it at the desired point.

**To search quickly**

1 Press ⏯ to set the unit in pause mode.

2 Keep ⏮⏮⏮ or ⏭⏭⏭ depressed.
The search speed increases, but there is no sound. Find the desired point by observing the display.
Press ⏯ again at the desired point to play.




## CD Playing

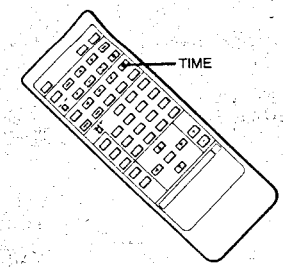
**To locate a selection directly**
Possible only with the remote commander

1 Set the TUNER/EQ/CD selector to CD.

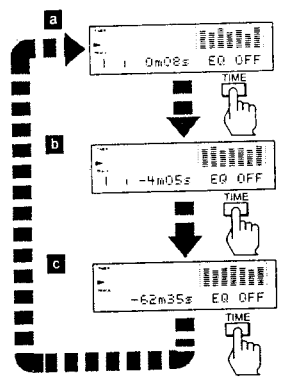
2 Press the numeric button for the selection.

**If the selection number is greater than 12**
Use the >12 and 1 to 10 buttons. "10" functions as the figure "0."
e.g. To play from selection number 22, press >12, 2, 2.
To play from selection number 30, press >12, 3, 10.

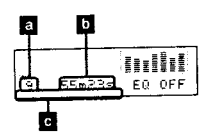




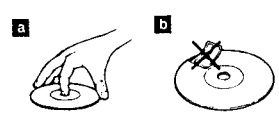

A




B




C






## CD Playing

### Information display

Possible only with the remote commander.

**To change the time display A**
Press TIME during play.
The display changes to give you the following information.

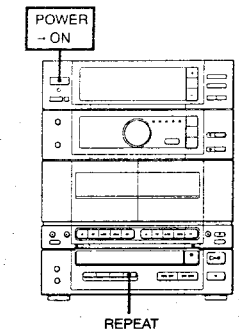
- a Elapsed playing time of the current selection
- b Remaining time in a selection. If the current selection number is over 20, "--m--s" is displayed.
- c Remaining time of the disc.

**To display the total playing time of the disc B**
Press TIME during stop.
The following appears for about 4 seconds.

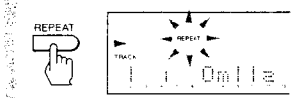
- a Total number of selections
- b Total playing time of the disc
- c Track numbers

This information appears also when you close the tray by pressing ⏏ OPEN/CLOSE.

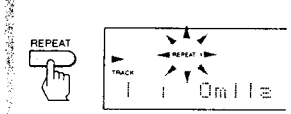
**Notes on handling discs C**
- To keep the disc clean, handle the disc by its edge. Do not touch the surface. a
- Do not stick paper or tape onto the disc. b
- Do not expose the disc to direct sunlight or heat sources such as a hot air duct, nor leave it in a car parked in direct sunlight as there can be a considerable rise in the temperature.
- After playing, store the disc in its case.




A




B






## CD Playing

### Playing Repeatedly – Repeat Play

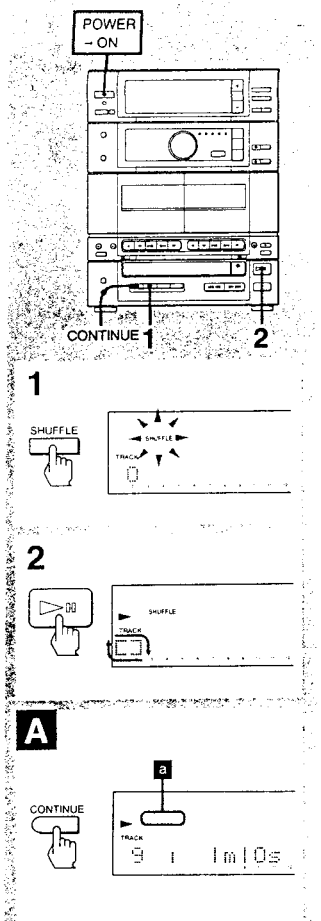
**To repeat all the selections A**
Press REPEAT once during play so that "REPEAT" appears in the display.

**To repeat a single selection B**
Press REPEAT twice while playing the desired selection so that "REPEAT 1" appears in the display.
(Operable only in normal play and delete play mode)

**To cancel repeat play**
Press REPEAT so that neither "REPEAT" nor "REPEAT 1" appears.

**Note**
Repeat play function works also during;
- shuffle play
- delete play
- delete shuffle play
- program play.

Multi-disc program play (see page 44) cannot be repeated.




# CD Playing

## Playing in a Random Order – Shuffle Play

This operation is impossible with the remote commander.
Shuffle play function plays all selections in a random order.

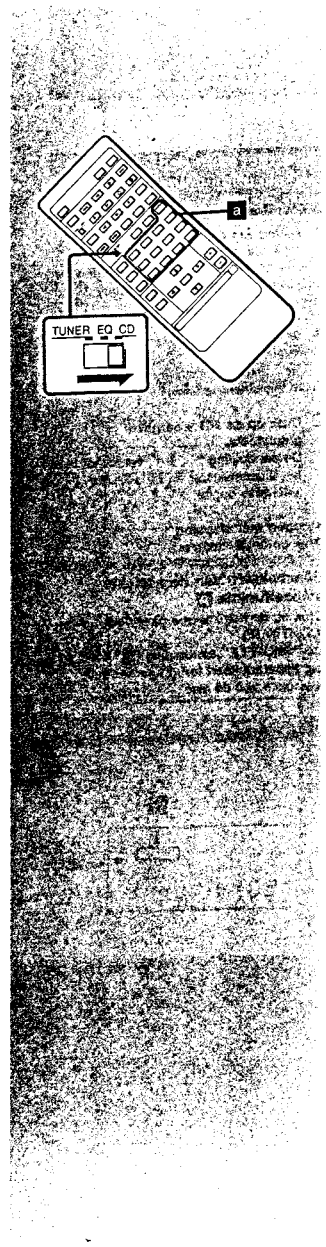
1 **Press SHUFFLE.**
"SHUFFLE" appears in the display.

2 **Press ▷II.**
" ⊂⊃ " appears and then shuffle play starts.

**To stop playing**
Press ■.

**To cancel shuffle play** A
Press CONTINUE.
"SHUFFLE" disappears (a), and play continues in normal play mode.








# CD Playing

**To play only the desired selections in a random order – Delete Shuffle Play**
You can delete the undesired selections before or during shuffle play.
This operation is possible only with the remote commander.

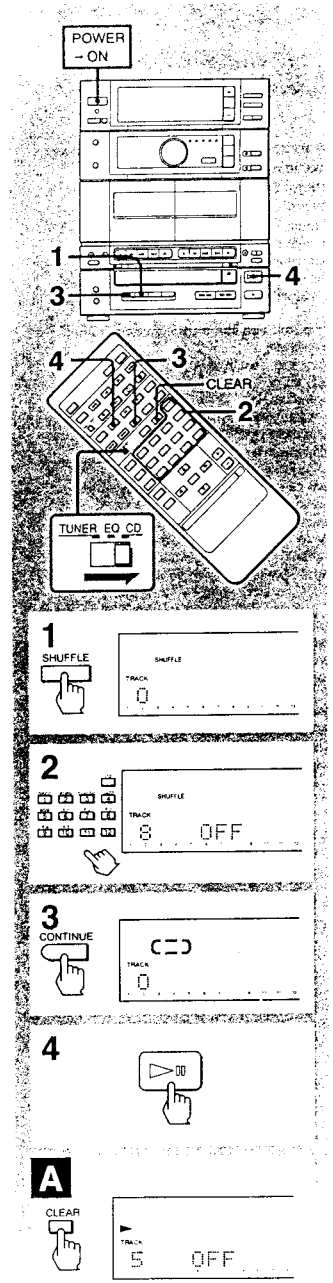
**To delete a selection**
Press the numeric buttons (a) for the selection you want to delete.
The number of the selection and "OFF" appears in the display.

**To restore a selection which you have deleted**
Press the numeric buttons for that selection.
The number of the selection and "ON" appears in the display.

**To restore all selections which you have deleted**
Press ■ during stop.

**When you press REPEAT during shuffle play**
After playing all the selections in a random order, shuffle play starts again in a different random order. During delete shuffle play, only the desired selections are played in a different random order.

**To check the remaining time**
Press TIME once to see the remaining time of the selection being played; twice to see the total remaining time of the selections to be played; once more to return to the initial display.






# CD Playing

## Playing Only the Desired Selections – Delete Play

You can delete the undesired selections before or during play.

**To delete a selection before play**

1 **Press SHUFFLE.**
"SHUFFLE" appears in the display.

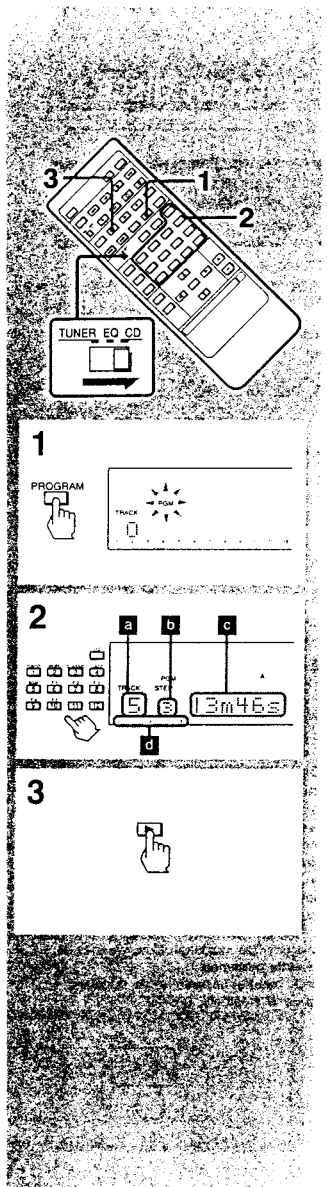
2 **Press the numeric buttons for that selection.**
The number of the selection and "OFF" appears in the display.

3 **Press CONTINUE.**
"SHUFFLE" disappears.

4 **Press ▷II (or ▶ on the remote commander).**
Delete play starts.

**To delete a selection during play** A
Press CLEAR on the remote commander while that selection is being played.
The number of the selection and "OFF" appears in the display and the next selection starts.

**To restore all the selections which you have deleted**
Press ■ during stop.




# CD Playing

## Playing in a Desired Order – Program Play

You can make a program for up to 24 selections in the order you want them to be played.

### Programming selections directly

Possible only with the remote commander.

1 **Press PROGRAM.**
"PGM" appears in the display.

2 **Press the numeric buttons for the desired selections in the desired order to be programmed.**
To choose a number greater than 12, see page 28.

- a Last programmed selection
- b The order to be played
- c Total playing time of selections
- d Programmed selection numbers

3 **Press ▶.**

### To program selections while checking the total time

Use the ⏮◀◀ and ▶▶⏭ buttons (⏮ and ⏭ buttons on the remote commander) instead of the numeric buttons to choose the desired selections. Choose a selection with the ⏮◀◀ and ▶▶⏭ buttons, check the total time, and then press PROGRAM while the selection number is flashing.

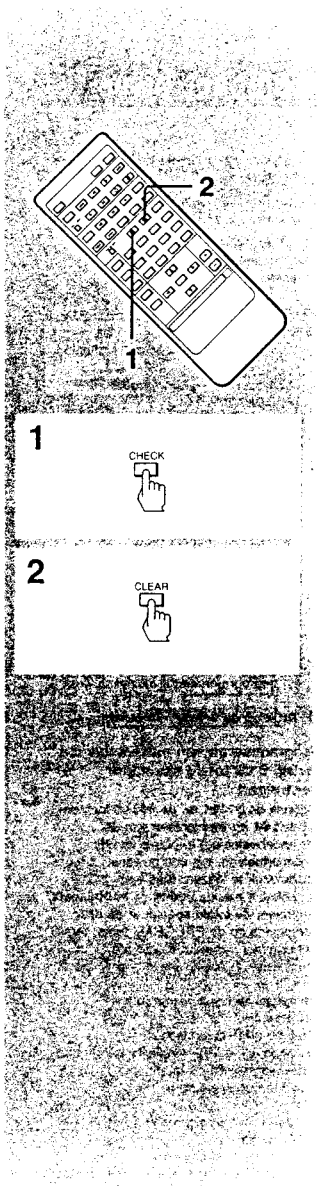
### To program a pause

Press ⏸.
"P" appears and the total playing time is reset to 0.

### To stop play

Press ■.
To restart the same program play, press ▶.






# CD Playing

### To cancel the program play

Press CONTINUE.
The program is erased and the play continues in normal play mode.

### To check the program

Press CHECK.
Each time you press CHECK, the number of the selection and the order to be played appear in the display. After the last selection is displayed, "CHECK END" appears on the display.

### To add a selection to the end of the program

Press the numeric buttons.

### To erase a selection

1 **Press CHECK so that the number of the selection you wish to erase appears.**

2 **Press CLEAR.**

### To erase the entire program

Press ■ once during stop; twice during play.
The program is also erased when you turn off the system.

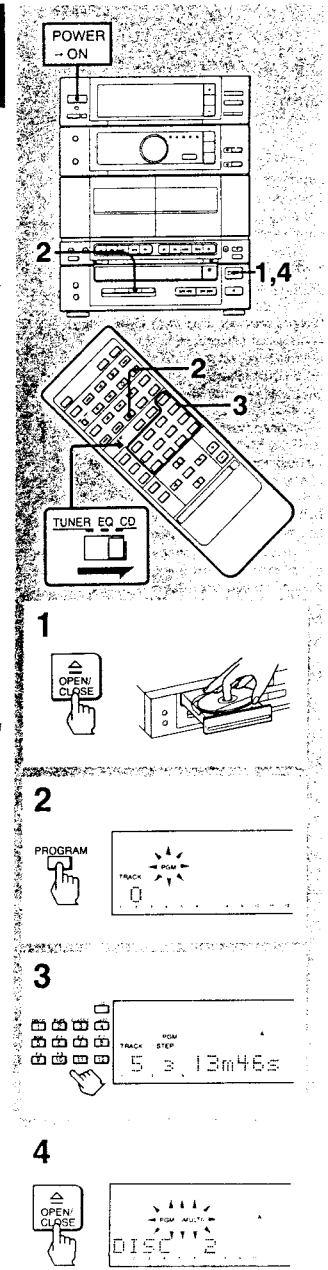
#### If "– – m – – s" is displayed

- You have programed a selection the number of which is over 20.
- The total time has exceeded 100 minutes.

#### To check the remaining time

Press TIME once to see the remaining time of the selection being played; twice to see the total remaining time of the whole program; once more to return to the initial display.






# CD Playing

## Designating the Playing Order of Up to 6 Discs – Multi-disc Program

You can make a program by designating up to 24 selections from up to 6 discs in the order you want them to be played. At the same time, you can adjust the total playing time of the program. This function is convenient for editing tapes.

### To program selections directly

Possible only with the remote commander.

1 **Insert the first disc.**

2 **Press PROGRAM.**
"PGM" appears in the display.

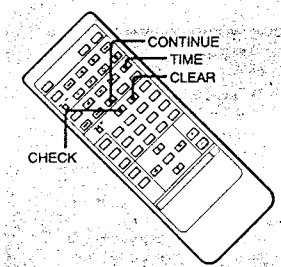
3 **Press the numeric buttons for the desired selection in the desired order to be programmed.**

4 **Remove the disc and insert the second disc.**
"PGM (MULTI)" and "DISC 2" appear in the display.

5 **Repeat steps 3 and 4 to program additional selections.**
Up to 24 selections from up to 6 discs can be programmed.
The total playing time for all selections appears on the time display.

### To play the program

Insert the first disc and press ▷II (▶ on the remote commander).
When "DISC 2" appears in the display, replace the first disc with the second disc and press ▷II. Continue replacing the discs until the last disc. When playback of the last disc is completed, "DISC END" appears in the display. The unit returns to the initial standby condition of program play from the first disc.




## CD Playing

**To stop playing**
Press ■.

**To cancel the program play**
Press CONTINUE.

**To check the program**
Press CHECK.
Each time you press CHECK, the number of the disc and the selection appear. After the last selection is displayed, "CHECK END" appears in the display.

**To erase a selection from the end of the program**
1 Insert the last disc.

2 Press CLEAR.

Each time you press CLEAR, the selections are erased from the end of the program.
If you insert a pause in your program, you cannot erase the selections programmed before the pause.

**To erase the entire program**
Press ■ once during stop; twice during play.

**Notes on multi-disc program**
- You cannot use the repeat play function.
- Do not insert a pause in your program when you want to use the CD SYNC button.

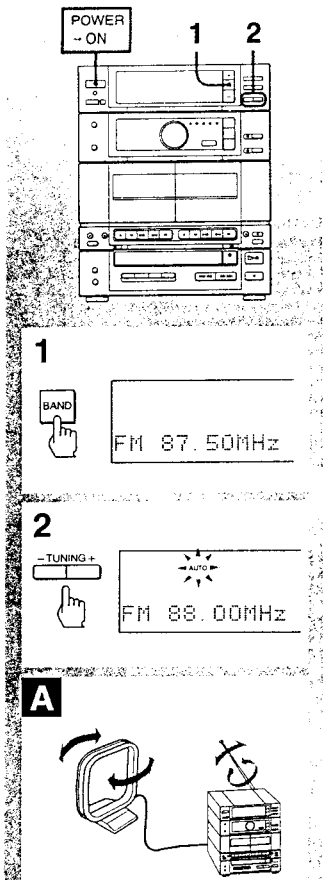
**If "--m--s" is displayed**
- You have programmed a selection number over 20.
- The total time has exceeded 100 minutes.

**To check the remaining time**
Press TIME once to see the remaining time of the selection being played; twice to see the total remaining time of the programmed selections of the disc being played; once more to return to the initial display.

**To check the number of the disc inserted**
Press TIME during stop.
The number of the disc appears.








## Radio

The automatic tuning enables you to find a station when its signal is strong enough.
When the signal is too week, use the manual tuning. This operation is impossible with the remote commander.

### Tuning in Automatically

**1 Press BAND repeatedly until the desired band appears.**
As you press BAND, the band changes as follows:
USA model:
FM → AM
European and U.K. model:
FM → MW → LW
Model for other countries:
FM → MW → SW

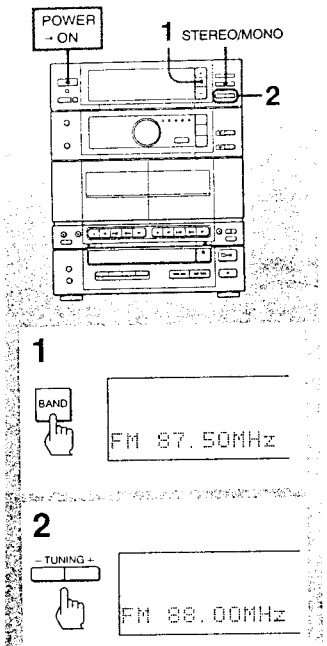
**2 Keep TUNING – or + depressed for more than 1 second.**
"AUTO" appears in the display and the unit tunes in a station automatically.

**3 Repeat step 2 until the desired station appears.**

**Indicator in the display**
TUNED: Appears when a station of sufficient signal strength is tuned in.
STEREO: Appears when an FM stereo program of sufficient signal strength is received.

**Antenna adjustment A**
For FM reception, adjust the length and direction of the telescopic antenna (except for MHC-700).
For AM (MW, LW and SW) reception, find the best location for the supplied AM loop antenna.





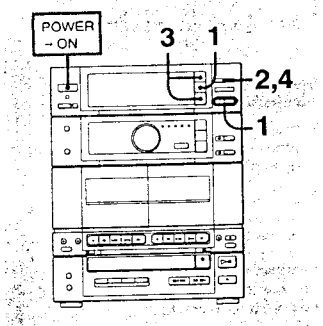

## Radio

### Tuning in Manually

**1 Press BAND repeatedly until the desired band appears.**

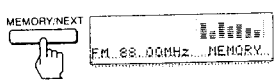
**2 Press TUNING – or + repeatedly until the desired station appears.**

**When an FM program is noisy or hard to receive**
Press STEREO/MONO so that "MONO" appears in the display. There will be no stereo effect, but the reception will be improved.
Press the button again to restore the stereo effect.

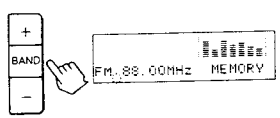



1

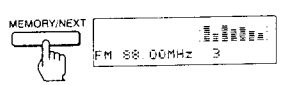
2




3




4




# Radio

## Storing Stations

You can store up to 20 FM stations and 10 MW stations and 10 LW (SW) stations (for the USA model, 20 FM stations and 10 AM stations) in a desired sequence, so that you can tune in the stored station directly by entering the preset station number.
This operation is not possible with the remote commander.

1 **Tune in the desired station.**

2 **Press MEMORY/NEXT.**
"MEMORY" and the preset station numbers appear in the display.

3 **While "MEMORY" is on (for several seconds), press PRESET/TIMER – or + to select a desired preset number.**

4 **Press MEMORY/NEXT.**
"MEMORY" disappears, the preset number appears and the station is stored.

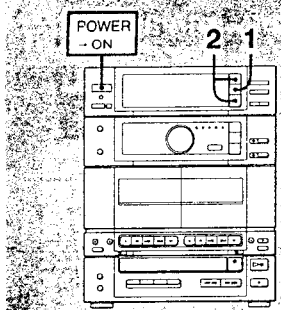
5 **Repeat step 1 to 4 for each station to be stored.**

**If you cannot store a station successfully**
Press MEMORY/NEXT again so that "MEMORY" appears, and then proceed with steps 3 and 4 above.
Be sure to operate while "MEMORY" is on. (about 4 seconds.)

**When you have selected the wrong preset station number**
Press MEMORY/NEXT again and then proceed with steps 3 and 4.

**To change the preset station**
Store a desired station at the desired preset number by proceeding with the above steps. The station previously preset will be erased. Erasing only is not possible.



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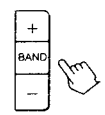
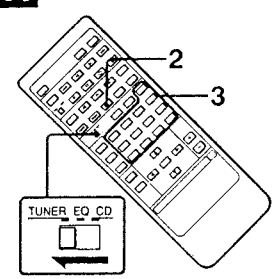



A






# Radio

## To Tune in a Preset Station

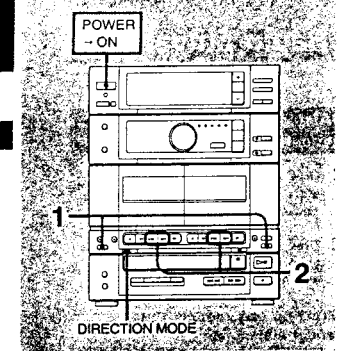
1 **Press BAND to select a desired band.**

2 **Press PRESET/TIMER – or + to select the desired preset number.**

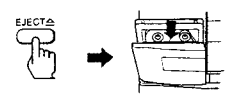
### To tune in a preset station directly A

Possible only with the remote commander.

1 Set the TUNER/EQ/CD selector to TUNER.
2 Press BAND to select a desired band.
3 Press the numeric button to select a desired preset station number.




1




2

# Tape Playback

## Playback Operation

1 **Insert a tape in deck A or B.**

2 **Press ▷ (for front side playback) or ◁ (for reverse side playback).**

**To stop playback**
Press ■.

**To stop for a moment during play**
(Deck B only)
Press PAUSE II.

### How to select the DIRECTION MODE position

To playback one side: set it to ⇄.
To play back both sides: set it to ⬭.
To playback both decks in succession: set it to RELAY. See page 60.
The DIRECTION MODE setting is effective for both decks.

## Playing back Automatically after Fast Winding – Auto Play

This function starts playback automatically from the beginning of the side after fast winding.

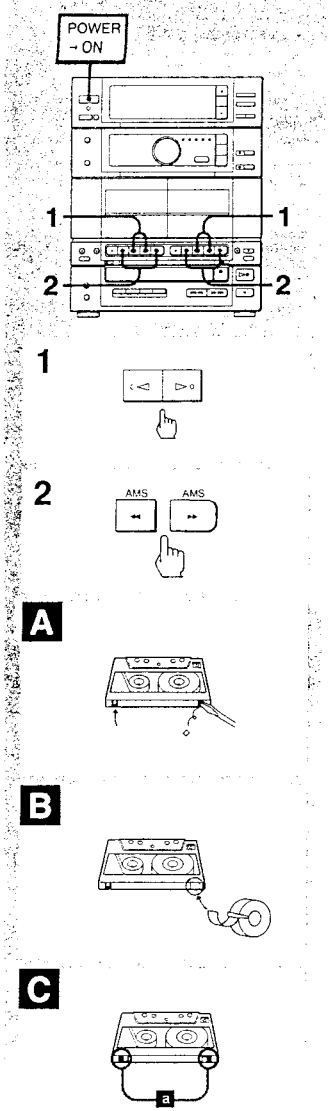
**To start playback from the beginning of the front side**
Press ▷ while keeping ◀◀ pressed.

**To start playback from the beginning of the reverse side**
Press ◁ while keeping ▶▶ pressed.

**When listening to the cassette recorded with the Dolby noise reduction system***
Set the DOLBY NR selector to ON. The setting is active for both decks. This system is provided with the DOLBY B NR system.

**What is the Dolby NR system?**
Dolby NR (noise reduction) system reduces tape hiss noise in low-level high-frequency signals. The system boosts these signals during recording and lowers them during playback.

* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and double-D symbol
□□ are trademarks of Dolby Laboratories Licensing Corporation.




# Tape Playback

## Locating the Beginning of a Selection during Playback – Automatic Music Sensor (AMS)

The AMS locates the beginning of a selection by detecting the blank spaces between selections. To assure correct operation of the AMS, there must be a blank of 3 seconds or more between selections.

**1 Press ◁ or ▷ to start playback.**

**2 Press ◀◀ or ▶▶ referring to the following table.**

| Side of the cassette being played (Indication on the display) | Desired selection | |
|---|---|---|
| | Next selection | Selection being played |
| Front side (▷) | ▶▶ | ◀◀ |
| Reverse side (◁) | ◀◀ | ▶▶ |

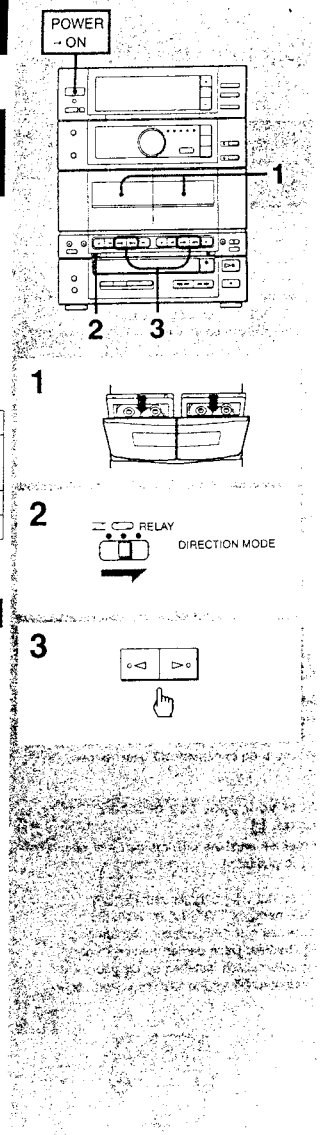
## Notes on Cassettes

**To protect the recording A**
Break off the tab on the left shoulder on the cassette side of which recording is to be protected.

**To re-record the cassette B**
Cover each slot with plastic tape.

When using a type II ($CrO_2$) cassette, be careful not to cover the detector slots (a) which are necessary for automatic tape type detection. C






# Tape Playback

## Playing Both Decks in Succession – Relay Play

Relay play always follows the sequence below regardless of where playback starts. When playback of the reverse side of the tape in deck B is completed, the following sequence continues 4 more times.

Deck A (Front side) → Deck A (Reverse side) → Deck B (Reverse side) → Deck B (Front side)

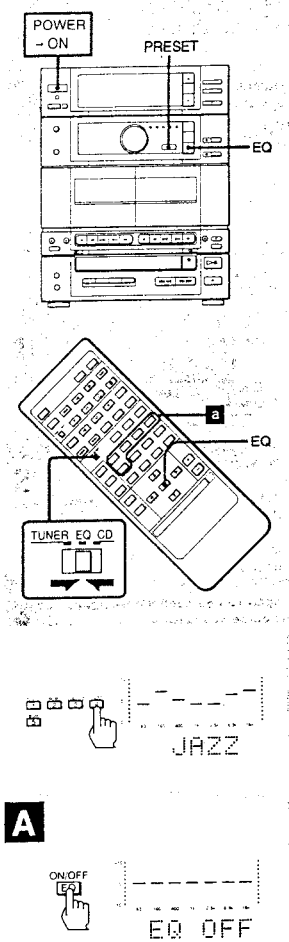
**1 Insert recorded cassettes in both decks.**

**2 Set the DIRECTION MODE selector to RELAY.**

**3 Press ◁ or ▷ on either deck.**

**To stop relay play**
Press ■.






# Using the Graphic Equalizer

## Making Use of the Preset Equalizer Settings

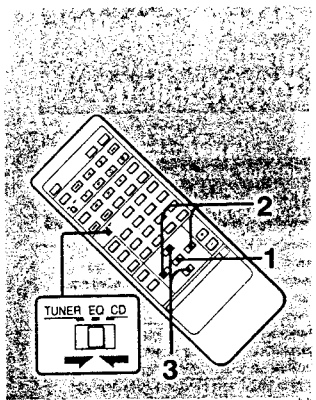
When the system is shipped from the factory, 5 specially recommended settings of the graphic qualizer are stored. You can enjoy the effect of the equalizer by simply choosing from the preset settings according to the program source.

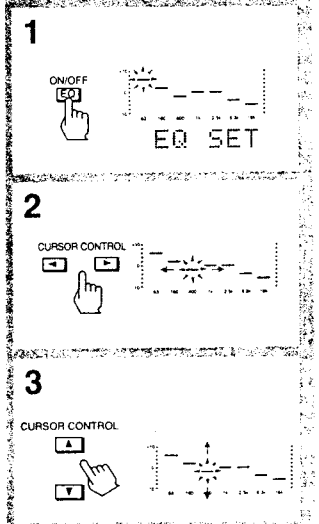
**Press the desired preset equalizer setting button a on the remote commander by referring to the table below.**

| | Display | Applications |
|---|---|---|
| 1 | DISCO | Gives a sound similar to a disco surrounded by hard walls. |
| 2 | POPS | Vocal sound is intensified. |
| 3 | CLASSIC | For orchestral music |
| 4 | JAZZ | For jazz |
| 5 | BGM | For background music |

You can also select the preset equalizer setting by pressing PRESET on the front panel repeatedly.

**When you do not want to apply the equalizer effect A**
Press EQ so that "EQ OFF" appears on the display.




# Using the Graphic Equalizer

## Adjusting the Graphic Equalizer

This function allows you to adjust the sound by raising and lowering the level of specific frequency ranges. This operation is possible only with the remote commander.

1 **Press EQ so that "EQ SET" appears in the display.**

2 **While the frequency range is flashing (for about 6 seconds), select the frequency range you wish to adjust using CURSOR CONTROL ► or ◄.**

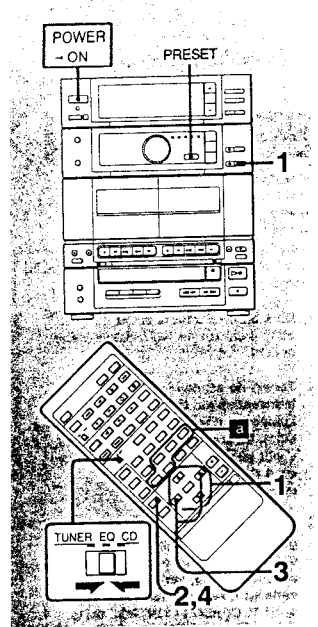
3 **While the frequency range is flashing (for about 6 seconds), raise or lower the level of the frequency range with CURSOR CONTROL ▲ or ▼.**

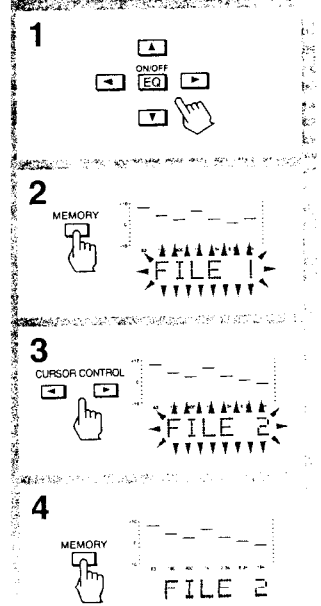
### Confirming the effect of the adjustment

Press EQ.
You can compare the difference between the adjusted setting ("EQ ON" is displayed) and no equalizer effect ("EQ OFF" is displayed).

**The sound you adjust**
You can record the sound you have adjusted with the graphic equalizer and the S-SUR button (not supplied for FH-B170K).






# Using the Graphic Equalizer

## Storing Your Individual Graphic Equalizer Settings – Personal File

By storing your individual graphic equalizer setting in the Personal File, you can easily call up the setting at any time. You can store up to 5 settings.
This operation is possible only with the remote commander.

1 **Adjust the sound with the graphic equalizer and the S-SUR button (except for FH-B170K).**
(See pages 64 and 22.)

2 **Press MEMORY.**
"FILE 1" appears and flashes.

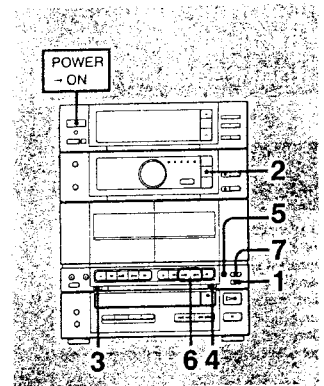
3 **While "FILE 1" is flashing (for about 4 seconds), press CURSOR CONTROL ◄ or ► to select a desired Personal File.**

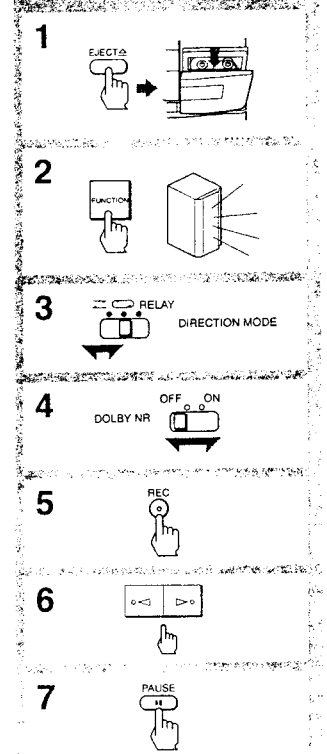
4 **While the selected Personal File is flashing (for about 4 seconds), press MEMORY.**
The selected Personal File stops flashing.
The equalizer setting is stored in the selected Personal File. The setting previously stored in the file is erased and replaced by the new setting.

### Calling up the setting from the Personal File

**Press the desired Personal File (F-1 to F-5) button [a] on the remote commander.**
You can also select the Personal File by pressing PRESET on the unit repeatedly.






# Recording

## Recording Operation (Deck B)

Use TYPE I (normal) or TYPE II ($CrO_2$) tapes for recording.

1 **Insert a blank tape into deck B.**

2 **Select a program source and play it.**
To select the tuner, the CD player or the cassette deck, you do not have to press FUNCTION. You can select them directly by pressing the operation button (BAND, PRESET/TIMER +/– or TUNING +/– to select the tuner, ▷II to select the CD player, and ▷ or ◁ to select the cassette deck).

3 **Set the DIRECTION MODE selector.**
To record one side, set it to ⇄.
To record both sides, set it to ⊂⊃.

4 **Set to DOLBY NR switch to ON or OFF.**

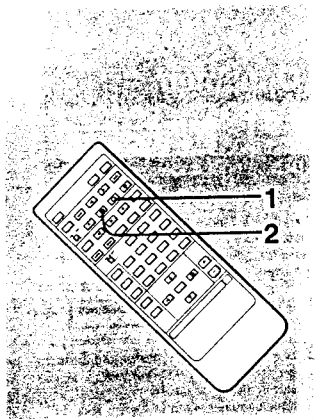
5 **Press REC ●.**
The deck B enters the recording pause mode.

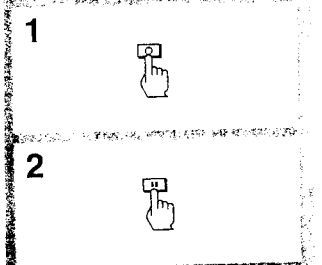
6 **If the desired direction indicator is not illuminated, select the side to be recorded**
Press ▷ (for front side recording) or ◁ (for reverse side recording)

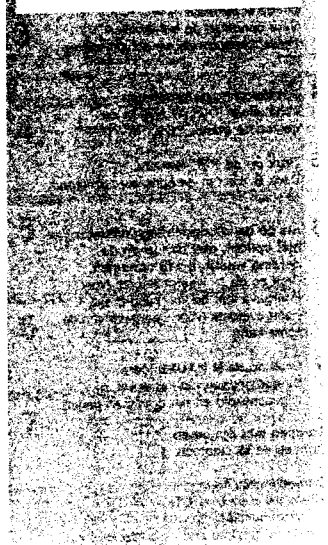
7 **Press PAUSE II.**
The pause mode is released and recording starts.

**To stop recording**
Press ■.

**Notes:**
- Even if you set the DIRECTION MODE selector to ⊂⊃, recording stops at the end of the reverse side. To record on both sides, be sure to start with the front side.
- The recording level is fixed and cannot be adjusted manually.



# Recording

## Inserting a Blank Space during Recording

This operation is possible only with the remote commander.

1 **Press O during recording at the position where the blank space is to be inserted.**
REC indicator flashes and the tape runs without recording. After 4 seconds, the unit enters recording pause mode.

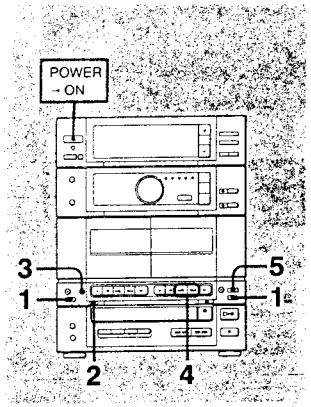
2 **Press II at the position where you want to start recording again.**
Recording restarts.

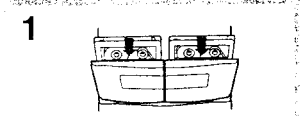
**To make a blank of more than 4 seconds**
Press O as long as needed.
REC indicator flashes faster after 4 seconds have elapsed. The tape pauses when O is released.

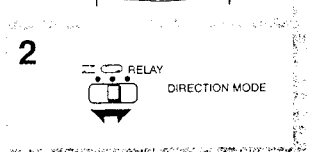
**To make a blank less than 4 seconds**
Press REC ● while REC indicator is flashing.

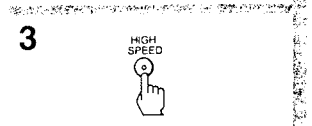


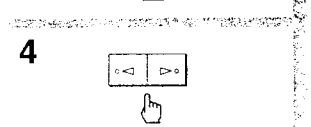


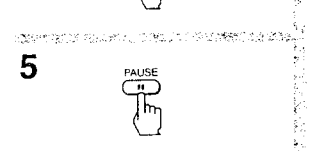


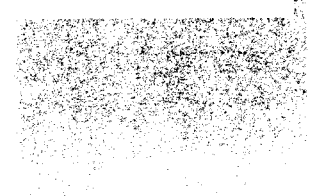





# Tape Dubbing (from deck A to B)

## Dubbing the Whole Tape at High Speed

This operation is not possible with the remote commander.

1 **Insert a recorded tape in deck A and a blank tape in deck B.**

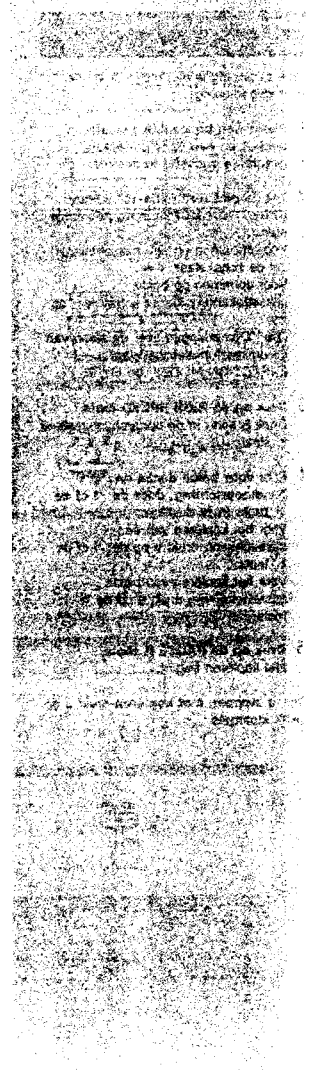
2 **Set the DIRECTION MODE selector.**
To dub on one side: set it to ⇄.
To dub on both sides: set it to ⇆ or RELAY.
(See "Note on DIRECTION MODE setting page 74.")

3 **Press HIGH SPEED.**
The deck B enters recording pause mode.

4 **Choose the same direction on both decks by pressing ◁ or ▷.**
To dub on one side, choose ◁ or ▷.
To dub on both sides, choose ▷.

5 **Press PAUSE II.**
Dubbing starts.

**To stop dubbing**
Press ■.





# Tape Dubbing (from deck A to B)

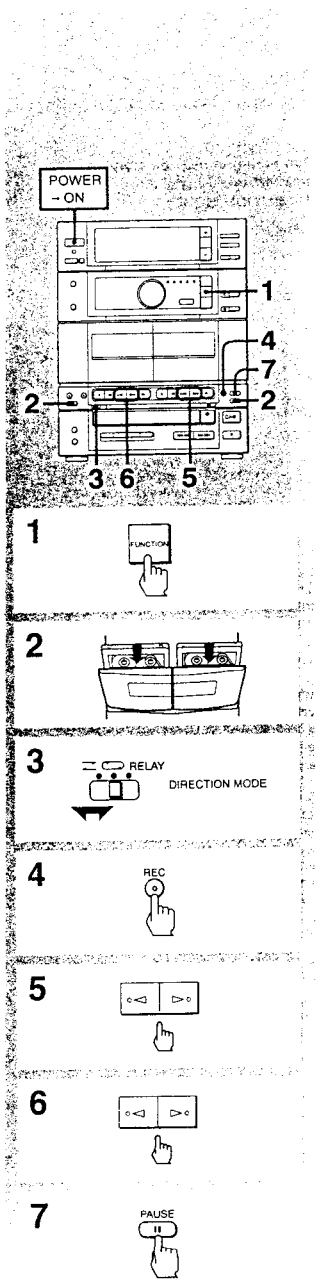
**Note on DIRECTION MODE setting**

| Position | Operation |
|---|---|
| ⇄ | Dubbing stops at the end of the tape. |
| ⇆ | When the tape in one deck comes to its end of the front side, it reverses immediately regardless of the tape position in the other deck. |
| RELAY | When the tape in one deck reaches its end of the front side, it stops until the other tape come to its end, and then both tape reverse together. |

**When dubbing starts from the reverse side in the RELAY mode**
At the end of the reverse side, dubbing stops automatically.

**Is it necessary to set DOLBY NR?**
No. The tape in deck B is automatically recorded in the same state as the tape in deck A.

**If the direction indicator on play button flashes 3 times and disappears**
The tab(s) of the cassette inserted into deck B has (have) been removed. Dubbing is not possible on that cassette. Cover the slot with plastic tape. (See page 58.)




# Tape Dubbing (from deck A to B)

## Manual Dubbing

**1 Press FUNCTION to select the cassette deck.**

**2 Insert a recorded tape in deck A and a blank tape in deck B.**

**3 Set the DIRECTION MODE selector.**
To dub on only one side; set it to ⇄.
To dub on both sides; set it to ⊂⊃.

**4 Press REC ●.**
The deck B enters recording pause mode.

**5 If the desired direction indicator is not illuminated, select the side to be recorded on the deck B.**
Press ▷ (for front side recording) or ◁ (for reverse side recording).

**6 Press ▷ or ◁ on deck A.**
Playback starts.

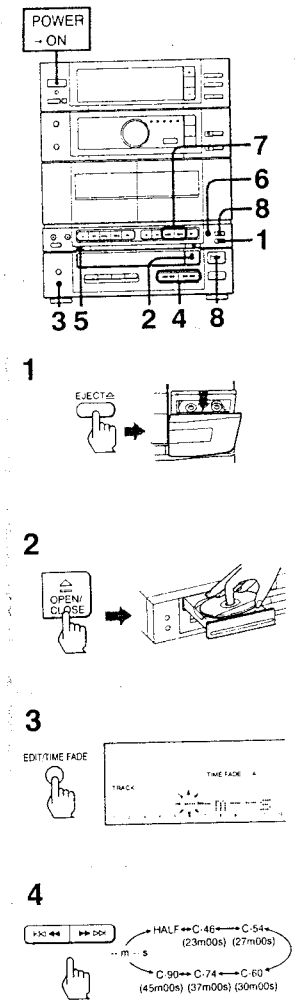
**7 Press PAUSE II.**
Normal speed dubbing starts.

**To stop dubbing**
Press ■ on both decks.

**Is it necessary to set DOLBY NR?**
No. The tape in deck B is automatically recording in the same state as the tape in deck A.

**Is it possible to listen to program sources other than tape during dubbing?**
During high speed dubbing, yes. Any program source can be selected with the FUNCTION button.
During manual dubbing, no. The source changes to the function selected with the FUNCTION button and the tape playback cannot be dubbed.








# CD Recording

## Fading Out at the Designated Time – Time Fade

You can have the disc play fade out at the end by designating the playing time so that the selection at the end of the tape fades out naturally without breaking abruptly in the middle. The player records the selections in the order they appear on the disc. 5 seconds before the designated time, the recording level falls gradually. At the designated time, the recording fades out and the CD player enters pause mode. This function works for both sides of the tape by designating the time once. This function works also during repeat, shuffle, and program play.

### Time Fade operation

This operation is not possible with the remote commander.

**1 Insert a blank tape into deck B.**

**2 Place a disc with the label side up, and close the tray.**

**3 Press EDIT/TIME FADE three times and display "TIME FADE".**

**4 Designate the tape length.**

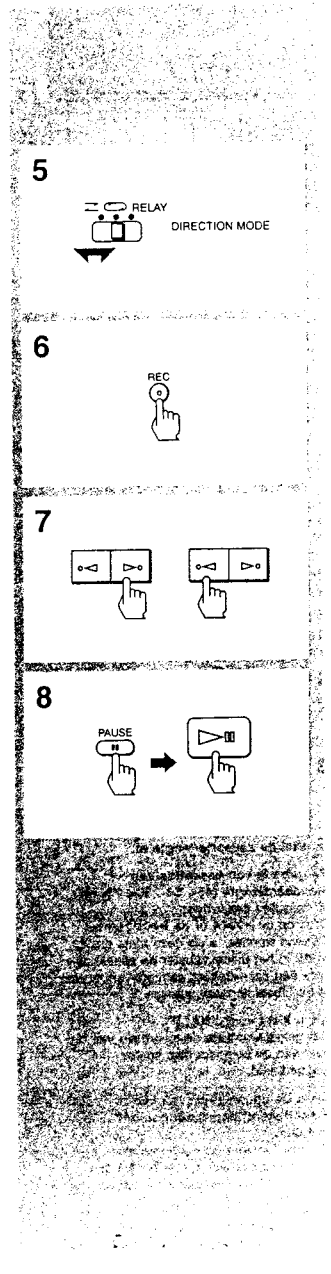
**When you use a 46-, 54-, 60-, 74-, or 90-minute cassette tape**
Press ⏮◀◀ and ▶▶⏭.
As you press these buttons, the minute display changes as shown in the illustration.

**When you choose "HALF"**
The player fades out after playing just the half of the total playing time of the disc.

**When you want to specify the recording time (of one side of the tape) more accurately**
Press the numeric buttons on the remote commander. (Make sure to set the TUNER/EQ/CD selector to CD.)

**Example:** To specify the time of 11 minutes 30 seconds, press "1", "1", "3", and "10".
("10" functions as the figure "0".)

(to be continued)






# CD Recording

(continued)

**5 Set the DIRECTION MODE selector.**
To record on one side, set it to ⇄.
To record on both sides, set it to ⊂⊃.

**6 Press REC ●.**
The cassette deck enters recording pause mode.

**7 If the desired direction indicator on play button is not illuminated, select the side to be recorded.**
Press ▷ (for front side recording) or ◁ (for reverse side recording)

**8 Press PAUSE II of the cassette deck and ▷II of the CD player.**
The pause mode is released, CD playing starts, and recording starts.

## CD Recording

**To stop recording**
Press ■ of the cassette deck and the CD player.

**When playback ends**
The CD player fades out and enters pause mode at the designated time. "TIME FADE B" appears in the display. The cassette deck reverses automatically if you set the DIRECTION MODE selector to ⇄.

If you want also to record on the reverse side of the cassette, press ▷II after the tape reverses.
When playback of the reverse side ends and fades out, the player enters the pause mode and the Time Fade is canceled.

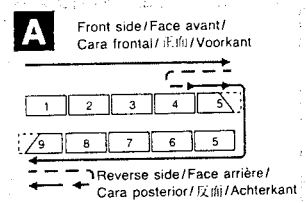
**To cancel the TIME FADE function**
During stop, press EDIT/TIME FADE so that "TIME FADE" disappears.

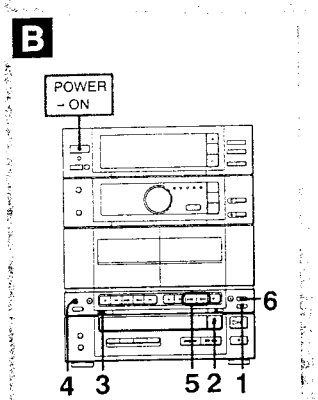
**When the playback of the disc ends during Time Fade**
The Time Fade function is still active. If you place another disc, the recording can be continued and will fade out when the total playing time of the discs reaches the designated time.

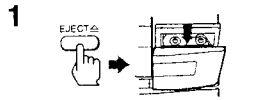
**About the remaining time during Time Fade**
When you press TIME twice, the remaining time until the designated time is displayed.

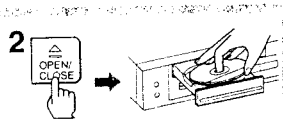
**If you press ⏮ or ⏭**
Time Fade will be canceled.

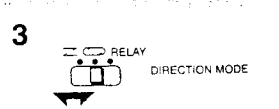







## CD Recording

### Recording the Entire Program on a Disc – Fade Edit

CD program playback and tape recording start simultaneously due to the Synchronized Start function. The selection at the end of the tape does not break abruptly in the middle, but fades out automatically (Fade Edit Function).

**How the Fade Edit function works**
**A**
The player records the selections in the order on the disc. If the tape ends in the middle of the selection, the player rewinds the tape to the beginning of that selection. Then the selection is re-recorded so that it fades out naturally at the end of the tape.
If the recording is to be continued to the reverse side, the selection that faded out on the front side is recorded again from the beginning on the reverse side.

**Fade edit operation B**
This operation is not possible with the remote commander.

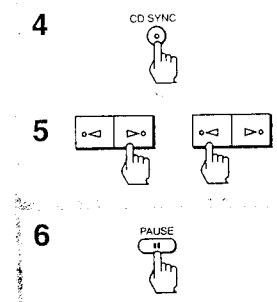
**1 Insert a blank tape into deck B.**

**2 Place a disc with the label side up, and close the tray.**

**Note:**
Make sure that the total number of selections and the total playing time appear in the display.

**3 Set the DIRECTION MODE selector.**
To record on one side, set it to ⇄.
To record on both sides, set it to ⇄.

(to be continued)






## CD Recording

(continued)

**4 Press CD SYNC.**
The deck B enters recording pause mode.

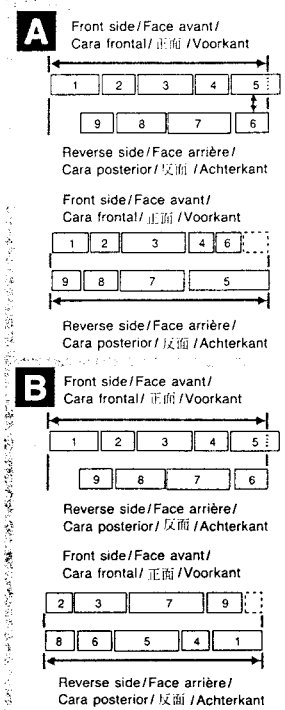
**5 If the desired direction indicator on play button is not illuminated, select the side to be recorded by pressing ◁ or ▷.**
To record on the front side or on both sides, press ▷.
To record only on the reverse side, press ◁.

**6 Press PAUSE II on deck B.**
The recording starts. After about 10 seconds, the CD playback starts.

**To stop recording**
Press ■ of the cassette deck and/or the CD player.

**Note:**
When the tab on the cassette has been removed, the CD SYNC button does not operate.

**Is it possible to listen to program sources other than CD during CD recording?**
No. If you select another function, the CD play stops and the selected program source will be recorded.






# CD Recording

## Editing the CD for Recording

The CD player automatically edits the selections on a disc according to the tape length. There are two ways of editing: Time Edit and Just Edit.

### How the Time Edit function works

**A**

The CD player selects the selections so that the total recording time of the selections is within the tape length and so that the order of the selections changes as little as possible. This function is convenient when you know the available recording length of the tape.
The player selects the selections from the first one in the disc, summing up each playing time. When the total playing time exceeds the specified tape length, the last selection is eliminated and replaced with another selection which is not longer than the remaining time. The eliminated selection is recorded on the reverse side. If you do not want to miss recording some specific selections, you can select them beforehand.

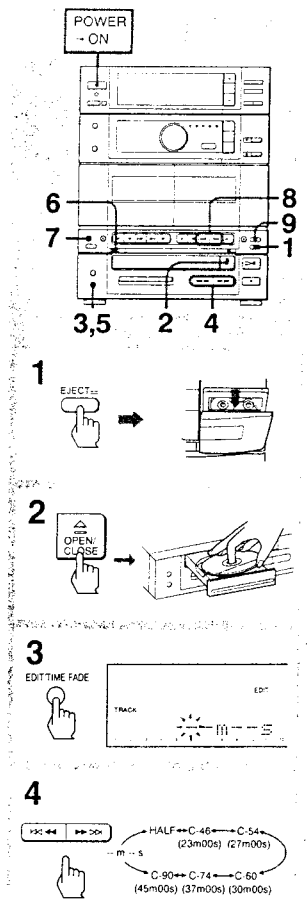
### How the Just Edit function works

**B**

The CD player chooses the selections so that the total recording time of the selections is within the tape length and so that you can record as many selections as possible by changing the order of the selections. This function is convenient when you want to record as many selections as possible.
The player selects the selections so that the total playing time best fits length of side A. Then the player selects from the remaining selections to record on side B. If you do not want to miss recording specific selections, you can select them beforehand.

**Note:**
You can edit only the selections from track numbers 1 to 20 in the disc using the Time Edit and Just Edit.








# CD Recording

### Time Edit and Just Edit operations

This operation is not possible with the remote commander.

**1 Insert a blank tape into deck B.**

**2 Place a disc with the label side up, and close the tray.**

**3 Press EDIT/TIME FADE and display "EDIT" (Time Edit) or "JUST EDIT".**
To choose Time Edit, press EDIT/TIME FADE once.
To choose Just Edit, press EDIT/TIME FADE twice.

**4 Designate the tape length.**

**When you use a 46-, 54-, 60-, 74-, or 90-minute cassette tape**
Press ⏮◀◀ and ▶▶⏭.
As you press these buttons, the minute display changes as shown in the illustration.

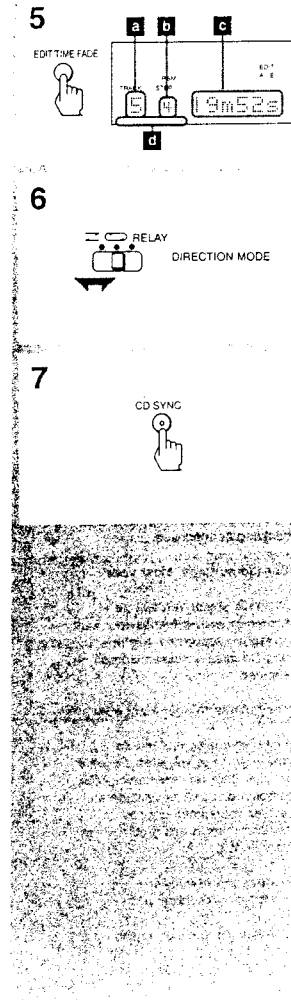
**When you choose "HALF" during Time Edit**
The player divides the selections in the disc between side A and side B without changing their order and records them so that no selection is left out.

**When you choose "HALF" during Just Edit**
The player programs the selections by changing their order so that the recording time of one side of the tape is half the total playing time of the disc. However, the program of side A may be a little longer than that of side B because the player distributes all the selections.

**When you want to specify the recording time (of one side of the tape) more accurately**
Press the numeric buttons on the remote commander. (Make sure to set the TUNER/EQ/CD selector to CD.)

**Example:** To specify the time of 11 minutes 30 seconds, press "1", "1", "3", and "10".
("10" functions as the figure "0".)

(to be continued)






# CD Recording

(continued)

**5 Press EDIT/TIME FADE.**
The selections to be recorded on one side are determined automatically. Then the display shows **a** the last selection to be recorded, **b** the programmed order, **c** total playing time, and **d** the selections to be recorded.

**For recording on both sides**
Press EDIT/TIME FADE again.
The selections to be recorded on the other side are determined.

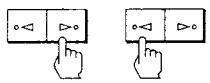
**To add selections (Link function)**
If there is remaining time even after programming all the selections on the disc, the LINK indication and the selection numbers that can be recorded within the remaining time flash in the display window. You can choose from these selections to add to the program. When you want to record the selections of another disc, replace the disc. The selection numbers that can be recorded flash in the same way.
There are two ways of adding selections:
- Press the numeric buttons for the selection. (Make sure to set the TUNER/EQ/CD selector to CD). That selection is added and if there is more space, "LINK" and the selection numbers flash again.
- Press EDIT/TIME FADE. All the selections that can be recorded are programmed.

**6 Set the DIRECTION MODE selector.**
To record on one side, set it to ⇄.
To record on both sides, set it to ⇆.

**7 Press CD SYNC.**
The deck B enters recording pause mode.

(to be continued)

8



9

# CD Recording

(continued)

**8 If the desired direction indicator on play button is not illuminated, select the side to be recorded by pressing ▷ or ◁.**
To record on the front side or on both sides, press ▷.
To record only on the reverse side, press ◁.

**9 Press PAUSE II button.**
The recording starts. After about 10 seconds, the CD playback starts.

**To stop recording**
Press ■ on the cassette deck or the CD player.

**Notes:**
- Do not press any other buttons than those mentioned in the procedure during Time Edit or Just Edit.
- When the tab on the cassette has been removed, the CD SYNC button does not operate.

### To select the desired selections preferentially

You can place priority on some selections to be recorded by pre-selecting them first using the program function of the CD player (see page 40.)

**Note:**
The Time Edit and Just Edit functions do not work when you program more than 20 selections on one disc.

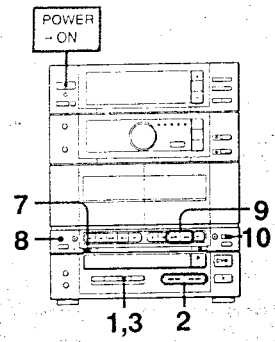
### To check the program

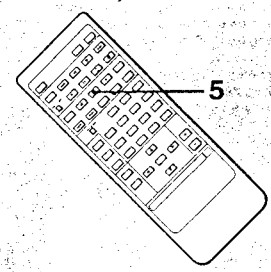
Press CHECK.
In the display window, "A" appears while checking the program for side A, and "B" appears while checking the program for side B.

**If it takes time for programming during Just Edit**
For some discs with many selections, it may take a while for programming. In that case, press ■ if you want to cancel the Just Edit operation.

**To use the CD synchronized recording function with more than one disc**
Use the multi-disc program function (page 44). Press the CD SYNC button each time you change the disc.



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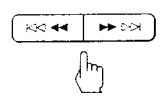


3

5

# CD Recording

## Programming the Selections while Checking the Total Playing Time – Program Edit

You can adjust the total playing time to the tape length.

**1 Press PROGRAM.**
"PGM" appears in the display.

**2 Choose a desired selection to be programmed with ⏮◀◀ or ▶▶⏭ and check the time.**

**If satisfactory, go to the next step. If not, repeat step 2 and choose another selection.**

**3 Press PROGRAM.**
The selected selection number is memorized.

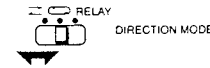
**4 Repeat steps 2 to 3 to program desired selections for side A.**
(Be sure that "A" is lit in the display.)

**5 Press II (for the CD player) on the remote commander.**
"P" appears in the display and the total playing time is reset to 0. "B" lights up.

(to be continued)



7

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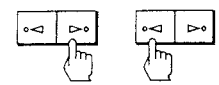


10

# CD Recording

(continued)

**6 Repeat steps 2 to 3 to program the desired selections for side B.**

**7 Set the DIRECTION MODE selector.**
To record on one side, set it to ⇄.
To record on both sides, set it to ⇆.

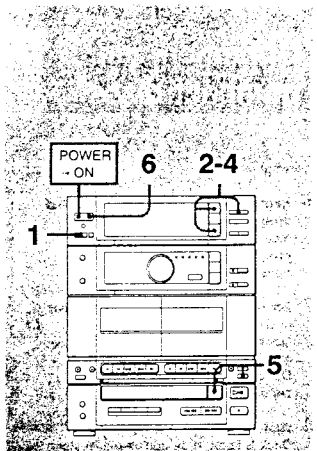
**8 Press CD SYNC.**
The deck B enters recording pause mode.

**9 Select the side to be recorded by pressing ◁ or ▷.**
To record on the front side or on both sides, press ▷.
To record only on the reverse side, press ◁.

**10 Press PAUSE II of the cassette deck.**
The recording starts. About 10 seconds, the CD playback starts.

**To stop recording**
Press ■ on the cassette deck or the CD player.

**Note:**
Be sure to program the selections so that the total playing time of each side does not exceed the tape length of one side.

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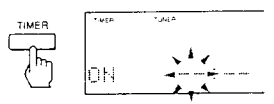


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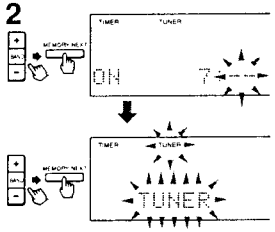


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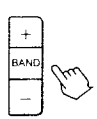



# Timer-Activated Operation

## Setting the Wake Up Timer

The power can be turned on automatically so that you can wake up with music. One hour later, the power is turned off automatically. The preset timer-on time remain until you reset it or you disconnect the power cord.

**Before setting the timer**
Make sure the clock is set correctly.
(See page 20)

1 **Press TIMER for more than 2 seconds.**
"TIMER" and "ON" appear and the hour digits flash in the display.

2 **Set the hour and minute of the timer-on time by pressing PRESET/TIMER + or −, and MEMORY/NEXT.**
The program source flashes.

3 **Select the program source by pressing PRESET/TIMER + or −.**
As you press the button (+ or −), the source changes as follows:

→TUNER←→TAPE PLAY←
→CD PLAY←

**To listen to the radio:**
1) Press MEMORY/NEXT. The frequency display appears.
2) Press BAND to select the desired band.
3) Press PRESET/TIMER + or − to select the desired selection.

**To listen to a tape:** go to step 6.

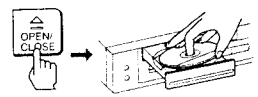
**To listen to a compact disc:**
1) Press MEMORY/NEXT. The selection number display appears.
2) Press PRESET/TIMER + or − to select the desired selection. (only from track numbers 1 to 20)

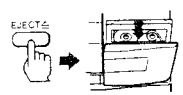
(to be continued)



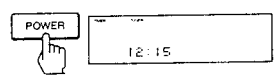
4

5




6





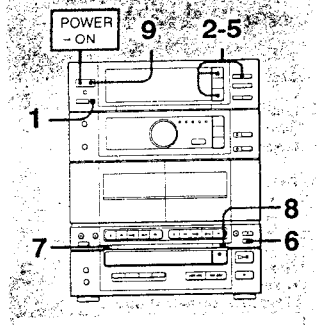

# Timer-Activated Operation

(continued)

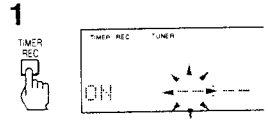
4 **Press MEMORY/NEXT.**
The preset items appear sequentially.

5 **Prepare the program source by inserting a disc or a tape.**
- For listening to the radio:
  You do not have to tune in the station.
- For listening to a tape:
  Insert the tape in deck B.

6 **Press POWER to turn off the system.**
At the timer-on time, the system turns on automatically.




1

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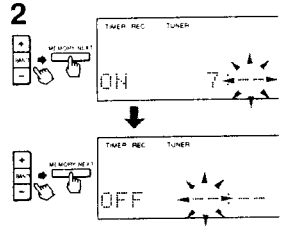


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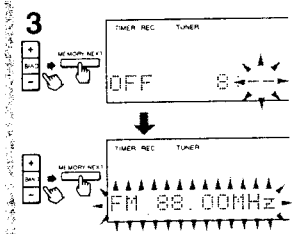



# Timer-Activated Operation

## Setting the Recording Timer

The power can be turned on and off automatically so that you can record a radio program while you are out. The preset timer-on and -off times function only once.

**Before setting the timer**
- Make sure the clock is set correctly.
(See page 20).
- Be sure to insert a cassette tape that is long enough.

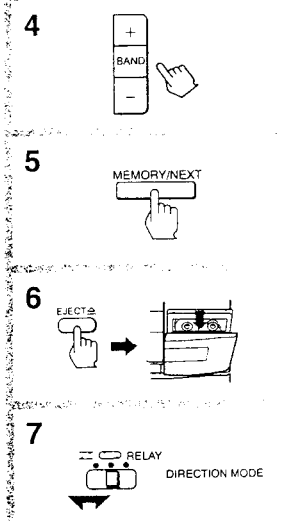
1 **Press TIMER REC for more than 2 seconds.**
"TIMER REC" and "ON" appear and the hour digits flash on the display window.

2 **Set the hour and minute of the timer-on time by pressing PRESET/TIMER + or −, and MEMORY/NEXT.**
"OFF" appears and the hour digits flash again.

3 **Set the hour and minute of the timer-off time by pressing PRESET/TIMER + or −, and MEMORY/NEXT.**
The frequency display flashes.

(to be continued)

## Timer-Activated Operation




(continued)

**4 Press BAND and PRESET/TIMER + or – to tune in the desired preset station.**

**5 Press MEMORY/NEXT.**
The preset items appear sequentially.

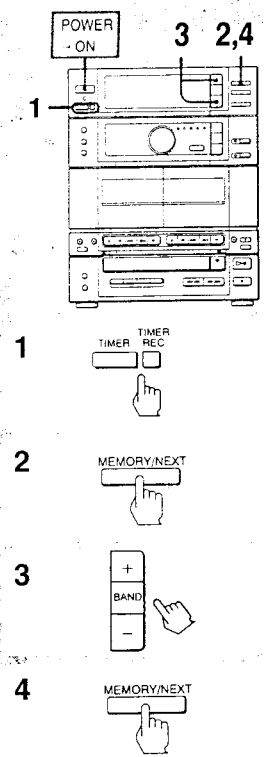
**6 Insert a cassette in deck B.**

**7 Set the DIRECTION MODE selector.**
To record on one side, set it to ⇄.
To record on both sides, set it to ⊂⊃.

**8 Set the DOLBY NR to ON or OFF.**

**9 Press POWER to turn off the system.**
Make sure that "TIMER REC" and "TUNER" are displayed. At the timer-on time, the system turns on automatically.








## Timer-Activated Operation

**To change the time and program**

**1 Press TIMER (or TIMER REC for timer recording) for more than 2 seconds.**

**2 Press MEMORY/NEXT until the item to be changed flashes.**

**3 Press PRESET/TIMER + or – to change that item.**

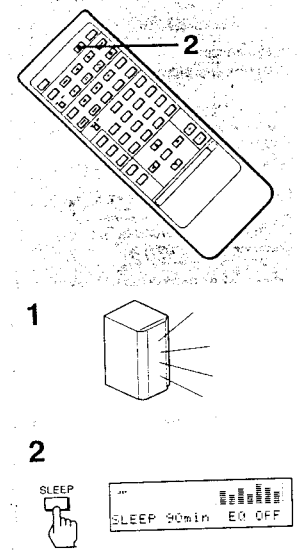
**4 Press MEMORY/NEXT until the preset items appear sequentially.**

**When you do not want to use the timer program**
Press TIMER (or TIMER REC) so that "TIMER" (or "TIMER REC") disappears.

**When the power is already on at the preset time**
The program source automatically changes to the preset one, even if you are playing another program source. However, when you have preset the recording timer, recording will not start even though the station is tuned in. Be sure to turn off the power before the preset time for timer recording.

**Important**

**On the recording side of a tape during timer recording**
Playback or recording always starts from the front side. When you want to record on only one side, be sure that the side you want to record on is facing you when you insert it.






## Sleep Timer Operation

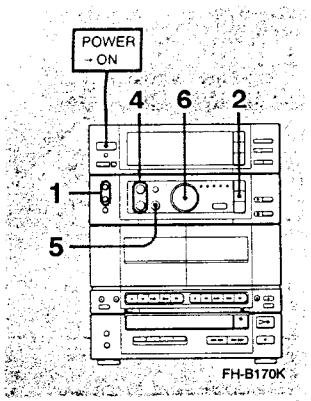
By setting the sleep timer, the system power can be turned off after the preset duration (up to 90 minutes).
This operation is possible only with the remote commander.

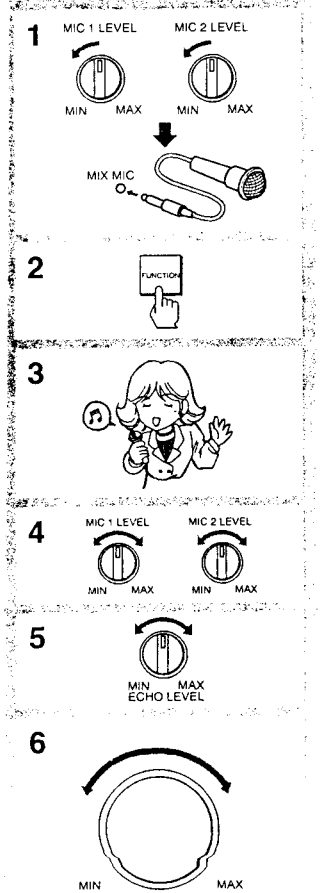
**1 Play a desired program source.**

**2 Press SLEEP to select the desired duration in minute.**
As you press SLEEP, the indication changes as follows:
90 → 80 → . . . . → 10 → . . .

**To turn off the system before the system is turned off by the sleep timer**
Press POWER.

**To check the remaining time before the sleep timer turns off the system**
Press SLEEP once, and the remaining time appears. The display returns to the previous indication automatically after several seconds.




# Microphone Mixing

## Mixing Operation

1 **Turn down the MIC 1 and 2 LEVEL controls completely and connect microphones to the MIX MIC 1 and MIC 2 jacks. (only for FH-B170K) Connect a microphone to the MIX MIC jack. (for other models)**

2 **Press FUNCTION to select program source and play it.**

3 **Sing or speak into the microphone(s).**

4 **(only for FH-B170K) Adjust the microphone volume level with the MIC 1 and/or 2 LEVEL control(s).**

5 **(only for FH-B170k) Adjust the ECHO LEVEL control.**

6 **Adjust the VOLUME control.**

### When the mixing is over

Be sure to disconnect the microphone(s).

### Recording the sound mixed with a source

1 Mix the sound as described above.
2 Insert a tape in deck B.
3 Start recording.

### Recording from a microphone only

1 Press FUNCTION to select the CD player. If a CD is being played, press ■ to stop playing.
2 Start recording.

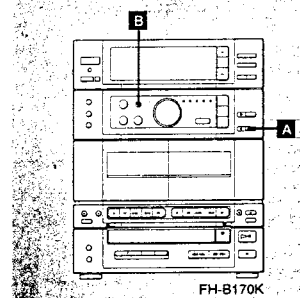
**When only one microphone is used (for FH-B170K)**

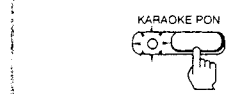
Connect it to the MIX MIC 1 jack and turn down the MIC 2 LEVEL completely.

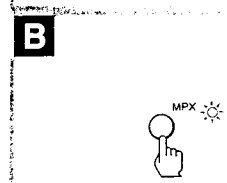
**To stop howling (acoustic feedback)**

Placing the microphone too close to the speakers may cause howling. Move the microphone away from the speakers or change the direction it faces.






# Singing along (FH-B170K only)

## Reducing the Vocals of a disc/tape – Vocal Reduction

You can sing with any desired stereo source by pressing the KARAOKE PON button which minimizes the singer's voice.

### To reduce the vocal

Press the KARAOKE PON button so that the indicator turns on.

### To cancel the vocal reduction

Press the button again so that the indicator turns off.

### Notes on the vocal reduction

- Utilize stereo recorded sources. Not only would the singer's voice be reduced, but instrumental sounds may also be reduced with monaural recorded sources.
- The singers's voice may not be reduced completely for the following.
  - Stereo recorded sources containing only few instruments
  - Duet
  - Souces with strong echoes and chorus
  - Souces with singer's voice deviating from the center
  - Souces with singer's voice with extreme soprano or tenor
- When vocal reduction is used, the play sound will be monaural.

## Singing Along with Multiplex Tapes

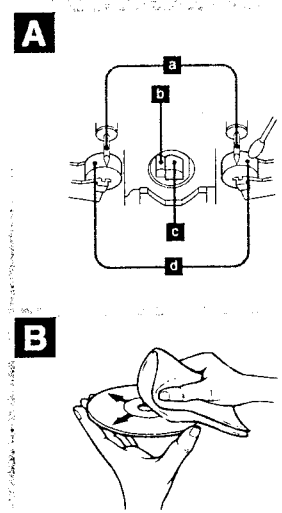
This feature can be made use of when you enjoy singing-along with microphones connected to the unit, while playing back a multiplex tape.

- To enjoy singing along, press MPX (multiplex) so that the indicator is turned on. You can hear only instrumental music and your voice through the microphone without recorded voice.
- To hear both instrumental music and recorded voice, press MPX again so that the indicator is turned off.

### What is a multiplex tape?

Instrumental music and vocals were recorded respectively on the left channel and on the right channel. Therefore, when playing back a tape instrumental music comes from the left speaker and vocals come from the right speaker separately.






# Maintenance

## Cleaning the Heads and the Tape Paths A

Clean after every 10 hours of operation and before recording for optimum record/playback quality.

1 Press EJECT ▲ to open the cassette holders.

2 Slightly moisten the tip of a cotton swab with cleaning fluid or alcohol.

3 Wipe the parts shown in the illustration:
- a Capstan
- b Erase head
- c Record/playback head
- d Pinch roller

Do not insert a cassette until cleaned areas are completely dry.

## Demagnetizing the Heads

After 20 to 30 hours of use, it is necessary to remove residual magnetism built up on the head using any commercially available demagnetizer. For demagnetizing procedure, refer to the instruction manual of the demagnetizer.

## Cleaning Discs B

When a disc becomes dirty, clean it with a cleaning cloth. Wipe the disc from the center out.
Do not use solvents such as benzine, thinner, commercially available cleaners, or anti-static spray intended for analog discs.

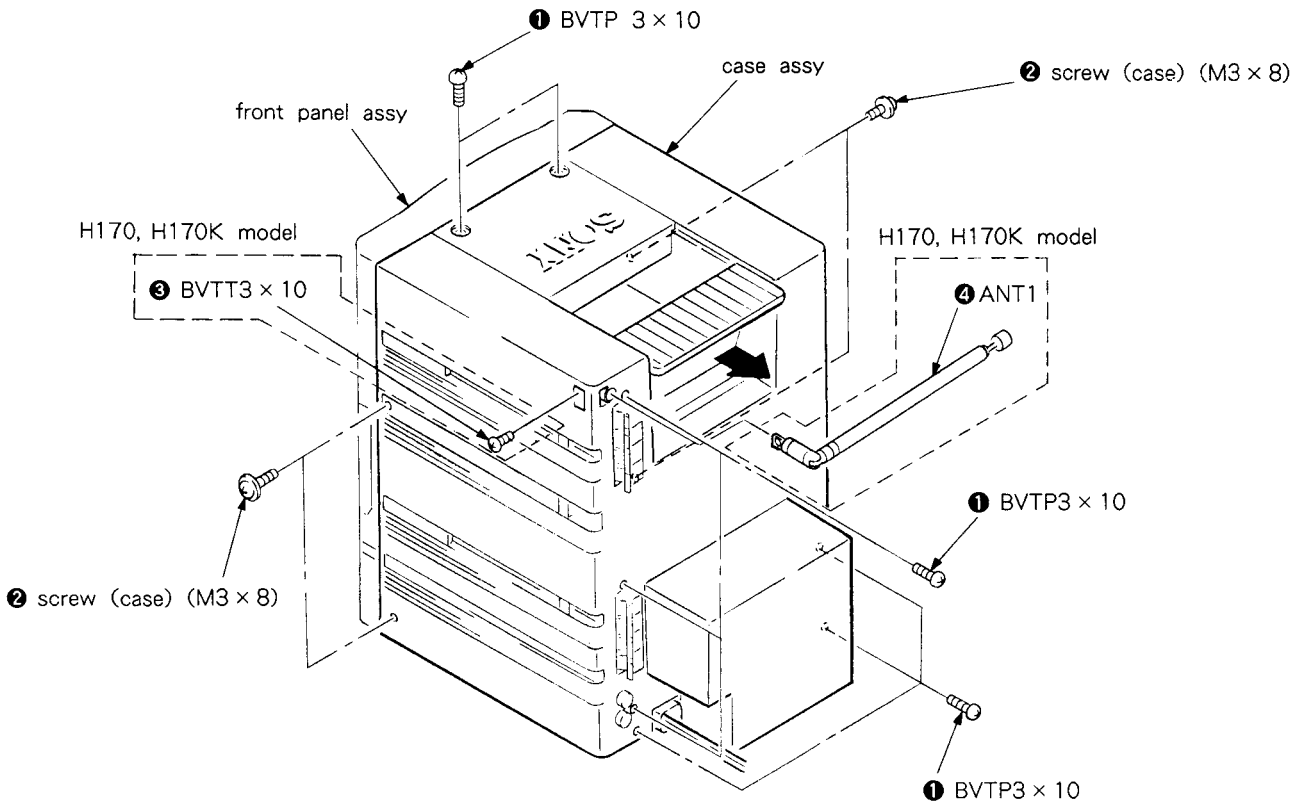
## Cleaning the Cabinet

Use a soft cloth slightly moistened with mild detergent solution.

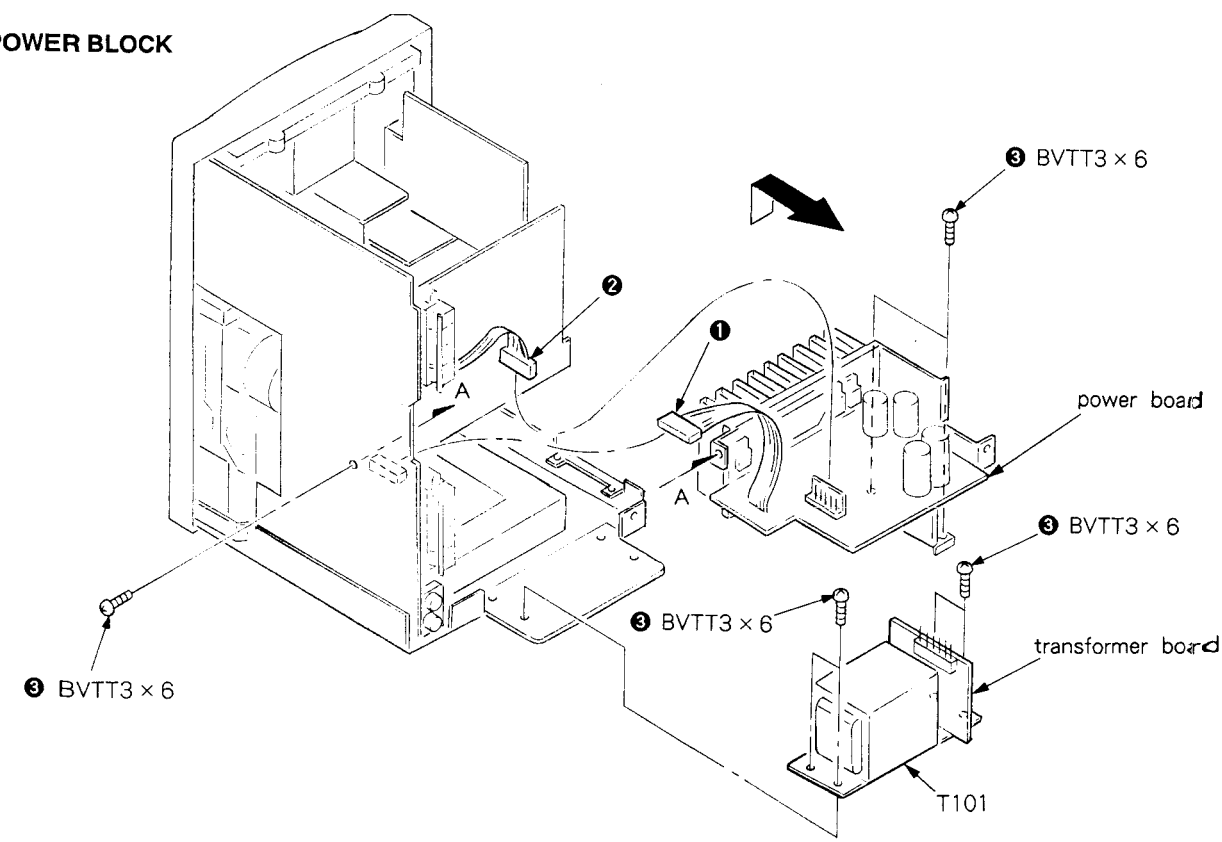
# SECTION 3
# DISASSEMBLY

NOTE : Follow the disassembly procedure in the numerical order given.

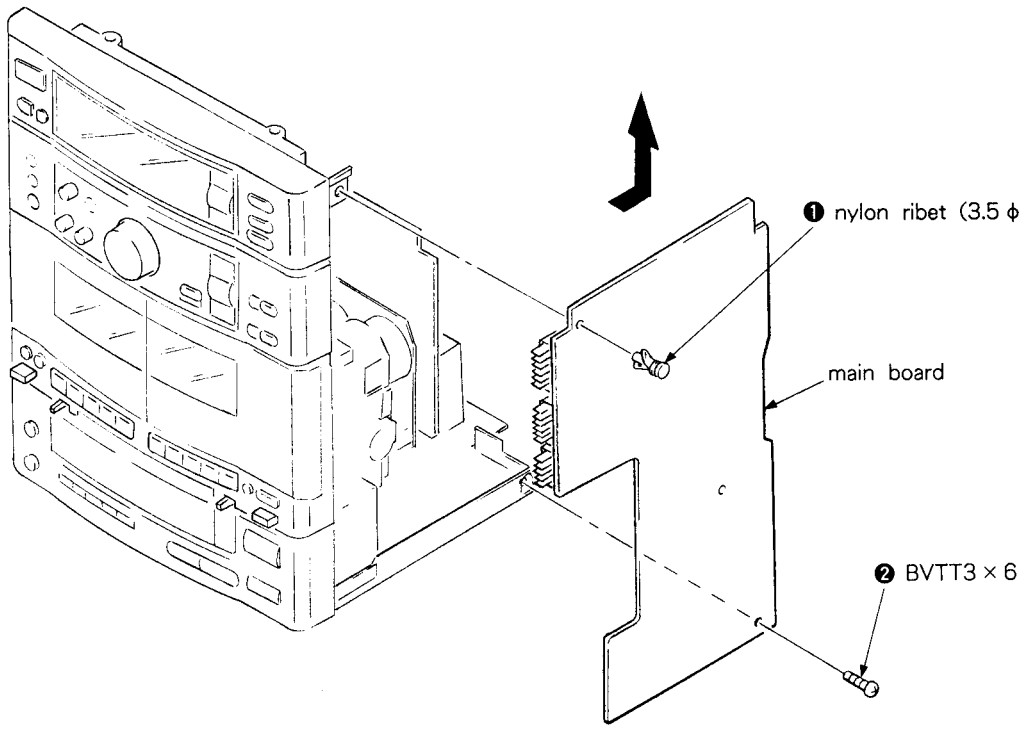
### 3-1. CASE



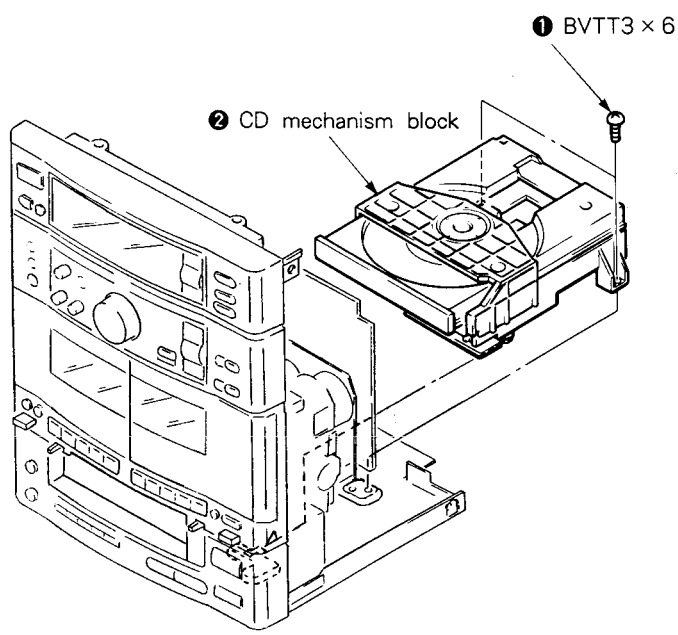

### 3-2. POWER BLOCK



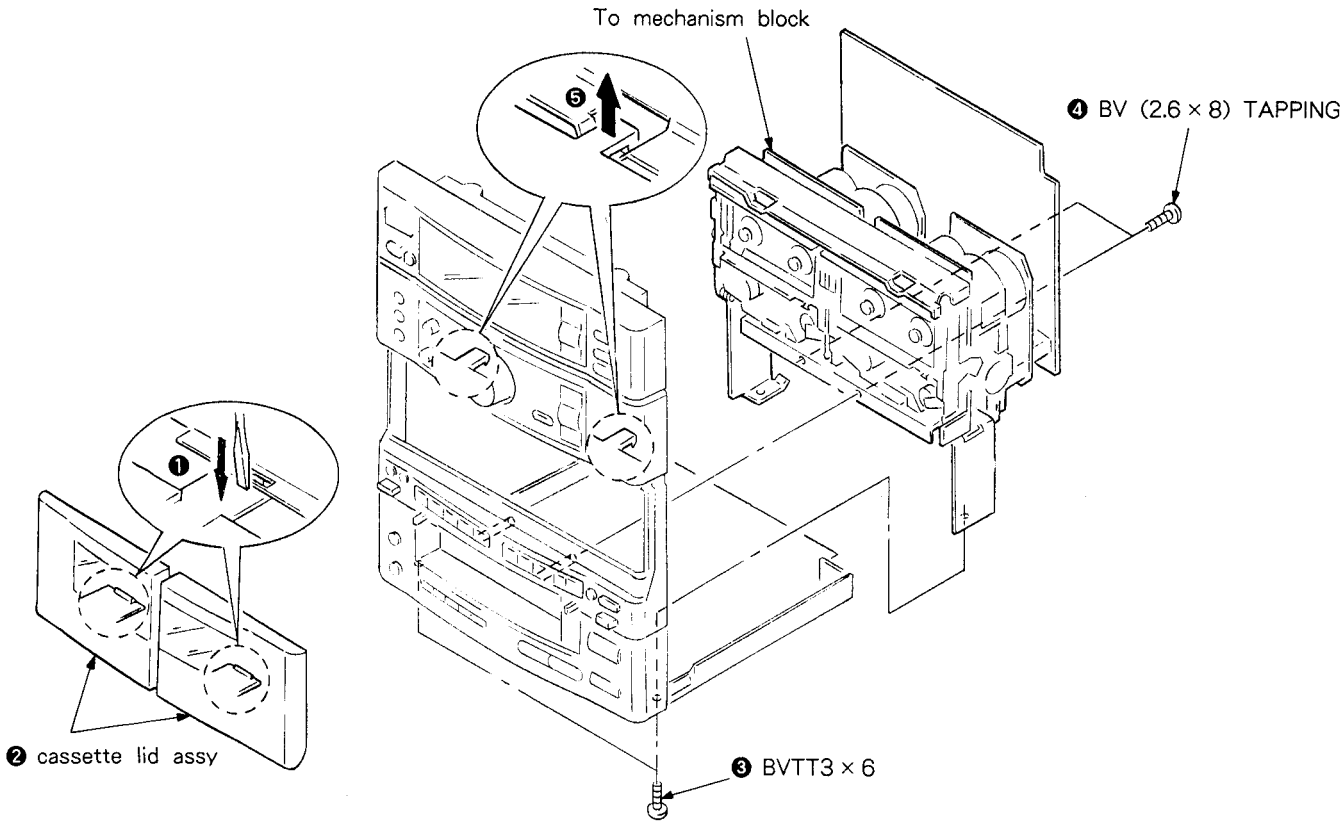
### 3-3. MAIN BOARD



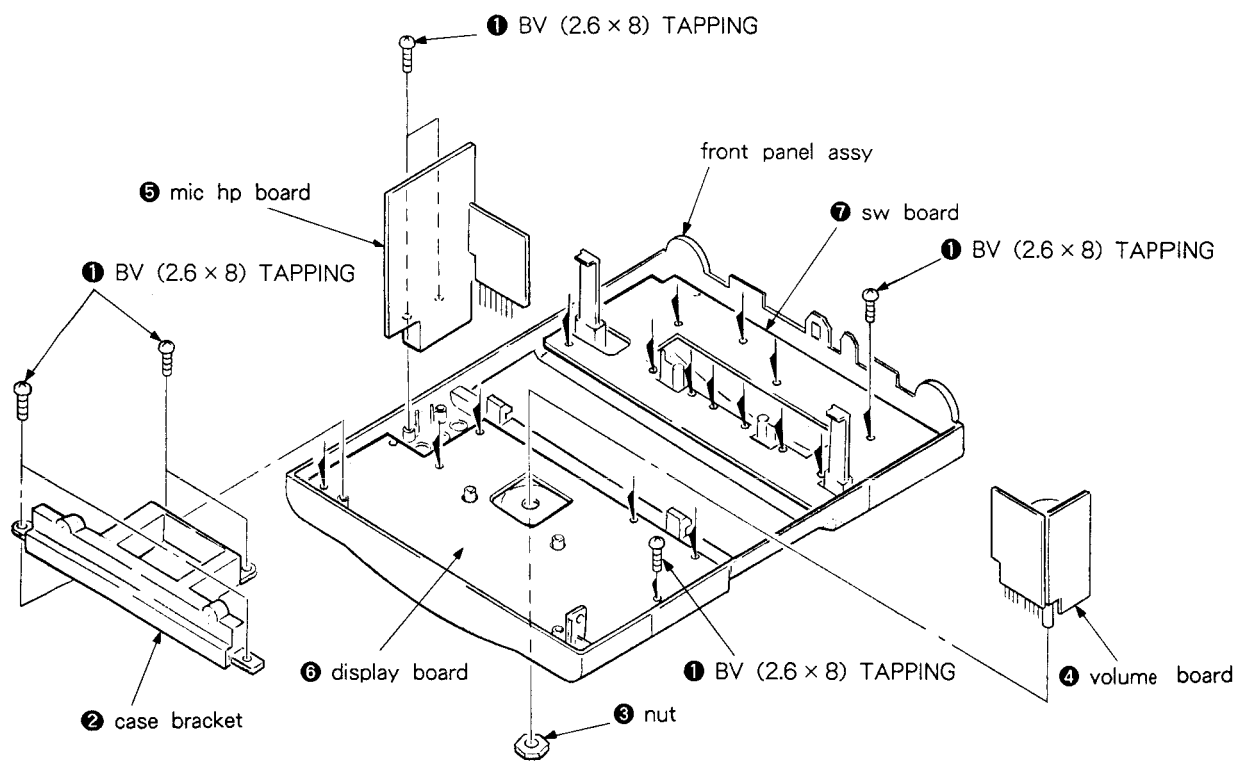

### 3-4. CD MECHANISM BLOCK



### 3-5. TC MECHANISM BLOCK




### 3-6. VOLUME/MIC HP/DISPLAY/SW BOARD


❶ BV (2.6 × 8) TAPPING
front panel assy
❺ mic hp board
❼ sw board
❶ BV (2.6 × 8) TAPPING
❶ BV (2.6 × 8) TAPPING
❻ display board
❶ BV (2.6 × 8) TAPPING
❹ volume board
❷ case bracket
❸ nut

# SECTION 4
# MECHANICAL ADJUSTMENTS

### PRECAUTION

1. Clean the following parts with a denatured alcohol-moistened swab :
   record/playback head　　pinch roller
   erase head　　rubber belt
   capstan　　idler
2. Demagnetize the record/playback head with a head demagnetizer.
   (Head demagnetizer do not approach for the erase head.)
3. Do not use a magnetized screwdriver for the adjustment.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustment should be performed with the rated power supply voltage unless otherwise noted.

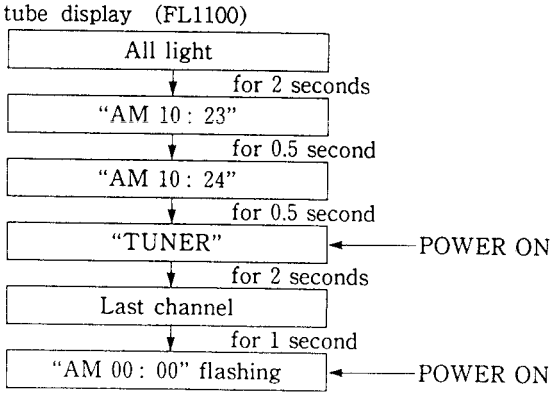
### • Torque Measurement

| Torque | Torque meter | Meter reading |
|---|---|---|
| Forward | CQ-102C | 35 to 60g • cm (0.49 to 0.83oz • inch) |
| Forward back tension | CQ-102C | 2 to 6g • cm (0.028 to 0.08oz • inch) |
| Reverse | CQ-102RB | 35 to 60g • cm (0.49 to 0.83oz • inch) |
| Reverse back tension | CQ-102RB | 2 to 6g • cm (0.028 to 0.08oz • inch) |
| FF/REW | CQ-201B | 70 to 110g • cm (0.98 to 1.52oz • inch) |

### • Timer Test Mode

When BAND, SHIFT and PRESET/TIMER+buttons are pressed at the same time the following time test operation is performed. After the operation, it becoms in the system reset mode. Take care that the frequency preset to the tuner is initialized.

1) POWER OFF
2) Timer set　Clock　AM10 : 23
   Timer ON　AM10 : 24
   Timer OFF　AM10 : 31
   Function　TUNER
3) FL tube display (FL1100)




4) Finish

# SECTION 5
# ELECTRICAL ADJUSTMENTS

**DECK SECTION**

1. The adjustment should be performed in the publication. (Be sure to make playback adjustment at first.)
2. The adjustment and measurement should be performed for both L-CH and R-CH.
   • Switch position
   DOLBY NR switch : OFF

### • Test Tape

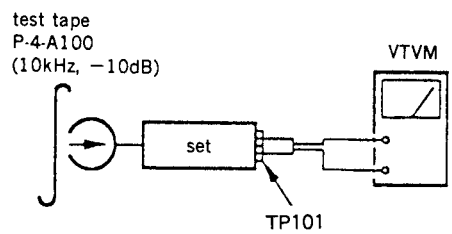
| Tape | Contents | Use |
|---|---|---|
| P-4-A100 | 10kH, −10dB | Head Azimuth Adjustment |
| P-4-L300 | 315Hz, 0dB | Level Adjustment |
| WS-48B | 3kHz, 0dB | Tape Speed Adjustment |

### Record/Playback Head Azimuth Adjustment

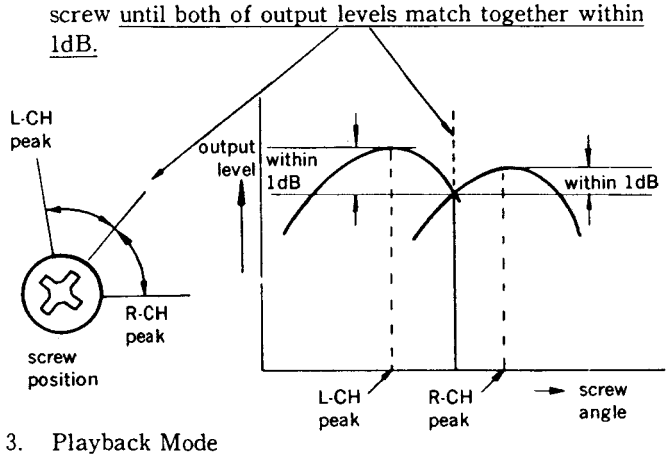
**DECK A** **DECK B**

**Procedure :**

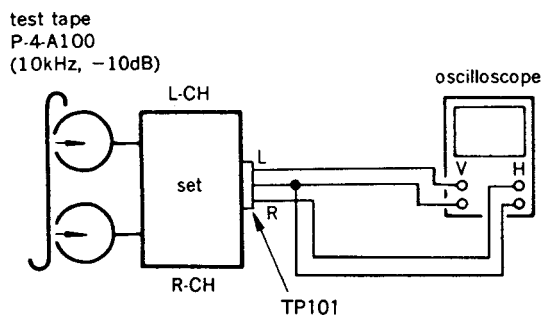
1. Forward Playback Mode
   Reverse Playback Mode

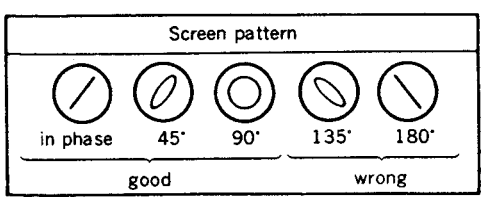


2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1dB.




3. Playback Mode

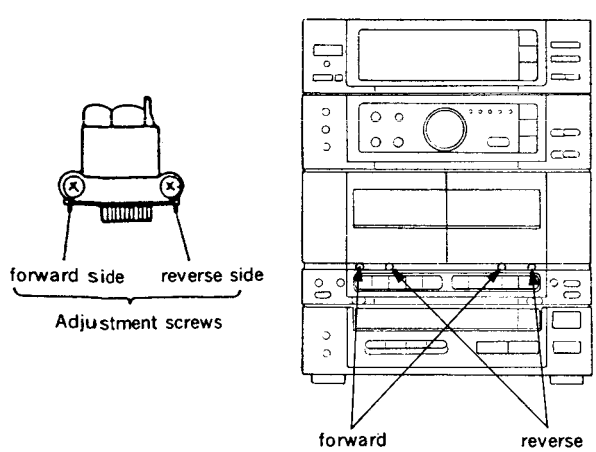



4. Change the review playback mode and repeat the steps 1 to 3.
5. After the adjustment, lock the adjustment screw with suitable locking compound.

**Adjustment Location :**

—record/playback head (deck A and B)

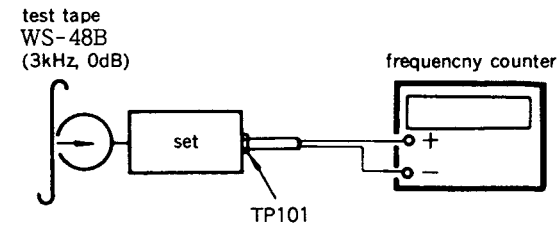



## Tape Speed Adjustment DECK A DECK B

**Procedure :**

- Perform high speed adjustment before normal speed adjustment.

Mode : playback




| Speed | Deck | Adjustment | Frequency counter |
|---|---|---|---|
| ※ High | A | RV72A | 5,970 to 6.030Hz |
| | B | RV72B | |
| Normal | A | RV71A | 2,985 to 3,015Hz |
| | B | RV71B | |

※ Continue to press HIGH SPEED DUBBING switch (S1523) in playback mode : High speed playback.

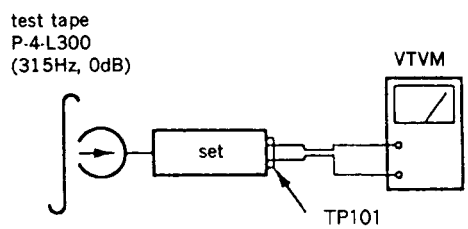
Frequency difference between the begining and the end of the tape should be within ±1.5%.

**Adjustment Location:** MD-A and MD-B boards.

## Playback Level Adjustment DECK A DECK B

**Procedure :**

Mode : playback




Deck A is RV11A (L-CH) and RV21A (R-CH), deck B is RV11B (L-CH) and RV21B (R-CH) so that adjustment within adjustment level as follows.

**Adjusment Level :**

LINE OUT level : −8.2dB to −7.2dB (0.301 to 0.338V)
Level Difference between Channels : within 1dB

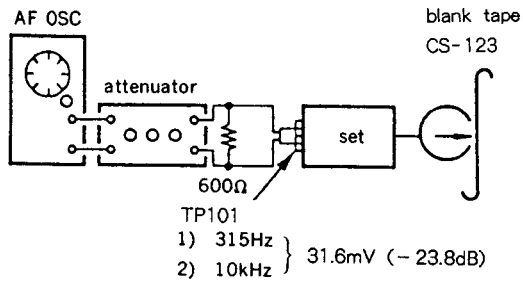
Confirm the DOLBY OUT level does not change in playback mode while changing the mode from playback to stop several times.

**Adjustment Location :** MD-A and MD-B boards

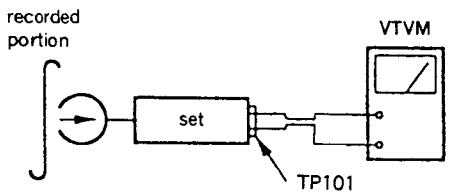
**Record Bias Adjustment** **DECK B**

**Procedure:**

1. record mode




2. playback mode




Confirm playback the signal recorded in step 1 become adjustment level as follows.
If these levels do not adjustment level, adjusment the RV12 (L-CH) and RV22 (R-CH) to repeat step 1 and 2.

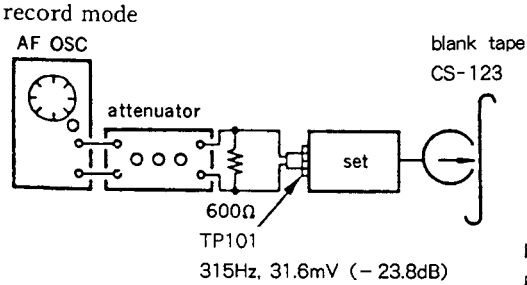
**Adjusment level:** Playback output of 315Hz to playback output of 10kHz: −0.5dB to 0.5dB.

**Adjustment Location:** MD-B board

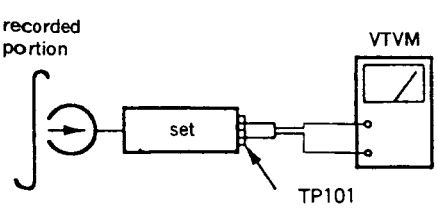
**Record Level Adjustment** **DECK B**

**Procedure:**

1. record mode




2. playback mode



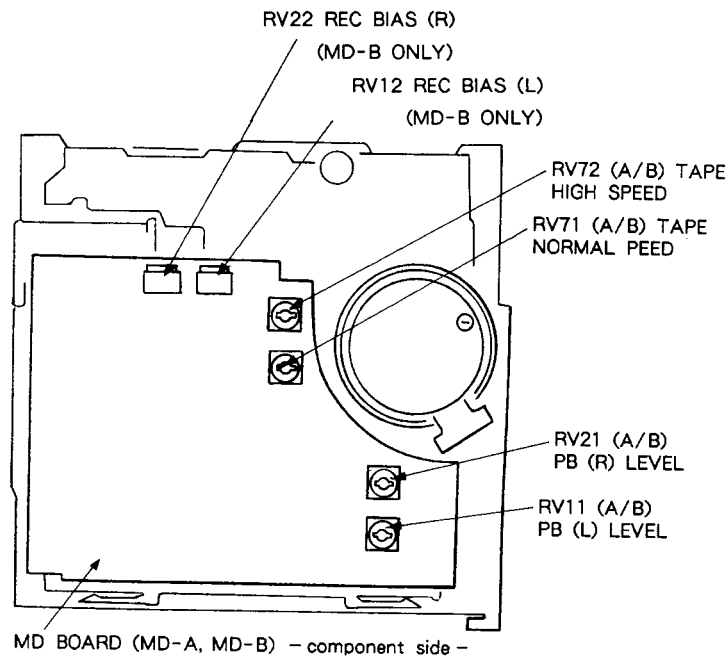

Confirm playback the signal recorded in step become adjustment level as follows.
If these levels do not adjustment level, adjusment the RV201 (L-CH) and RV301 (R-CH) to repeat step 1 and 2.

**Adjusment Level:**
LINE OUT level: −23.8dB ± 0.5dB (29 to 33.4mV)

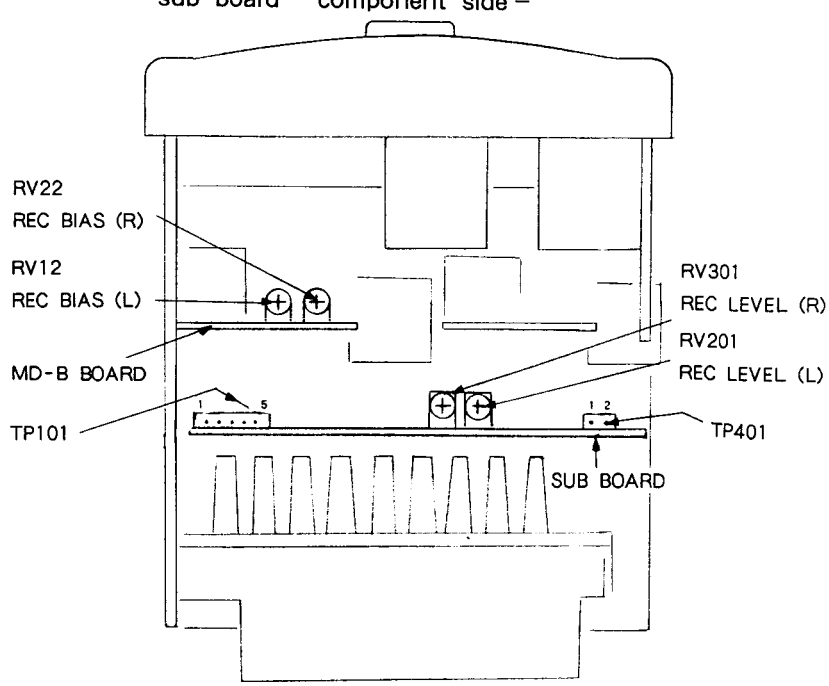
**Adjustment Location:** main board

**Adjustment Location:**

Mechanism deck − rear side −




sub board − component side −

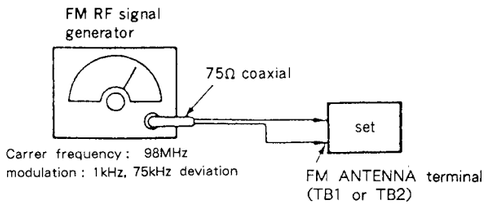


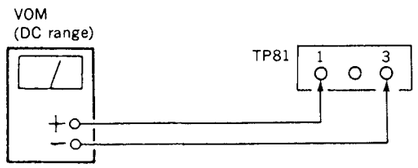
Note : As a front-end (FE1) is difficult to repair if faulty, replace it with new one.

## TUNER SECTION

### FM SECTION ADJUSTMENTS

Setting :




**FM Discriminator Alignment (NULL Check)**
Band : FM

**Procedure :**
1. Supply a 1mV (60dBμ) 98MHz signal from the ANTENNA terminal.
2. Tune the to 98MHz.
3. Adjust IFT82 for 0V reading on the VOM.

**Note :** FM tuned indication lighting level adjustment should be made after FM discriminator alignment.

**Adjustment Location:** main board

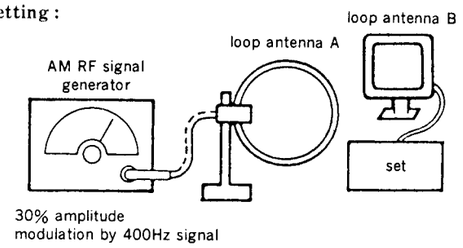
**FM Tuned Indication Lighting Level Adjustment**
Band : FM

**Procedure:**
1. Supply a 24 μV (25dBμ) 98MHz signal from the ANTENNA terminal.
2. Tune the set to 98MHz.
3. Adjust RV81 so that the TUNED light up.

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by trimmer capacitors.

### AM SECTION ADJUSTMENTS

Setting :




**MW Tuned Indication Lighting Level Adjustment**
Band : MW

**Procedure:**
1. Set loop antenna A so that the loop antenna, B input level becomes (55dBμ) 0.45mV.
2. Tune the set to 999kHz.
3. Adjust the RV82 so that the TUNED light up.

**SW OSC Voltage Adjustment**
Band : SW

**Procedure :**
1. Connect the VOM to TP (OSC).
2. Tune the set to 5.95MHz.
3. Adjust T2 for 0.9 to 1.1V reading on the VOM.
4. Tune the set to 17.90MHz.
5. Adjust CT22 for 8.3 to 8.7V reading on the VOM.

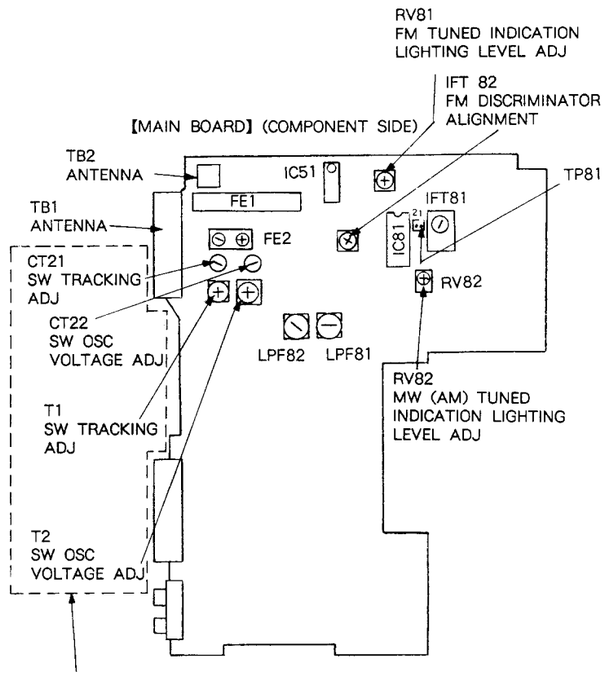
**SW Tracking Adjustment**
Band : SW

**Procedure :**
1. Cornect the VOM to speaker terminal.
2. Adjust for a maximam reading on VOM.

| Signal generator and Set frequency | Adjustment part |
|---|---|
| 7.0MHz | T1 |
| 17.0MHz | CT21 |



**Adjustment Location :** main board —component side—

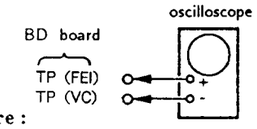



H170 : E, Saudi Arabia, Australian
H170K Model

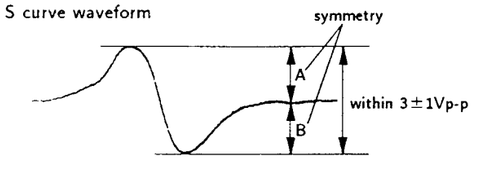
## CD SECTION

**Note :**
1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

### S Curve Check




**Procedure :**
1. Connect oscilloscope to test point TP (FEI) on BD board.
2. Connect between test point TP (FE) and TP (VC) by lead wire.
3. Turned Power switch on and actuate the focus serch. (acutuate the focus serch when disc table is moving in and out.)
4. Check the oscilloscope wavefrom (S curve) is symmetrical between A and B. And confirm peak to peak level within 3 ± 1Vp-p.



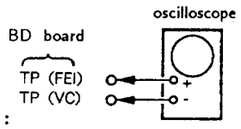

5. After check, remove the lead wire connected in step 2.

**Note :** • Try to mesure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.
• Take sweep time as long as possible and light up the brightness to obtain best waveform.

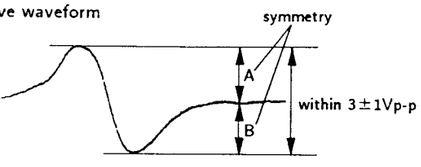
## ECTION

D Block basically constructed to operate with-
ut adjustment. Therefore, check each item in
rder given.
se YEDS-18 disc (3-702-101-01) unless otherwise
dicated.
se the oscilloscope with more than 10MΩ im-
edance.
lean an object lens by an applicator with neutral
etergent when the signal level is low than
pecified value with the following checks.

### rve Check



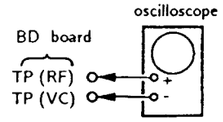

dure :
nnect oscilloscope to test point TP (FEI) on
board.
nnect between test point TP (FE) and TP (VC)
lead wire.
rned Power switch on and actuate the focus
ch. (acutuate the focus serch when disc table
moving in and out.)
eck the oscilloscope wavefrom (S curve) is
nmetrical between A and B. And confirm peak
peak level within 3 ± 1Vp-p.




ter check, remove the lead wire connected in
p 2.

- Try to mesure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.
- Take sweep time as long as possible and light up the brightness to obtain best waveform.

### RF Level Check

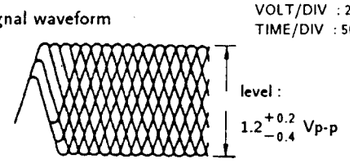



**Procedure :**

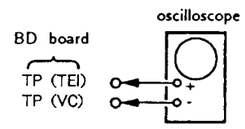
1. Connect oscilloscope to test point TP (RF) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

**Note :**

Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.

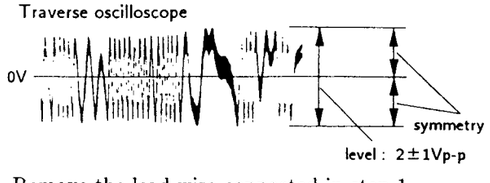



### E-F Balance Check




**Procedure:**

1. Connect test point TP (ADJ) to ground and TP (TEO) to TP (VC) with lead wire.
2. Connect oscilloscope to test point TP (TEI) on BD board.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0V, and check this level.

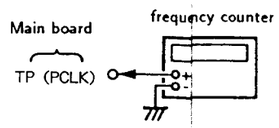



6. Remove the lead wire connected in step 1.

### RF PLL Free-run Frequency Chec

**Procedure :**

1. Connect frequency counter to tes point (PCLK) with lead wire.

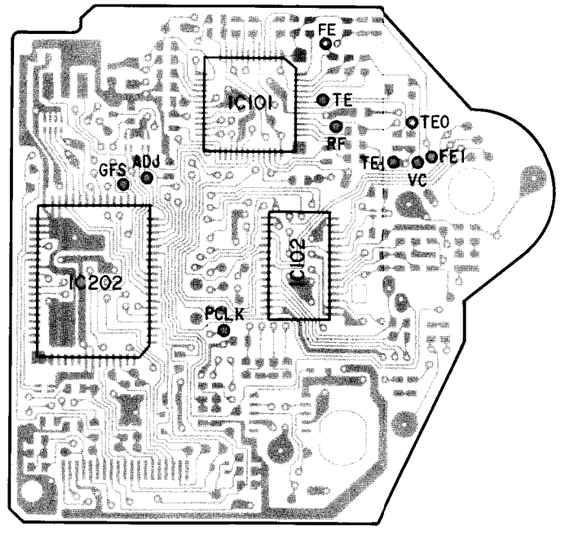



2. Turn Power switch on.
3. Confirm that reading on frequency counter is 4. 3218MHz.

### Focus/Tracking Gain

This gain has a margin, so even if it is slightly off. There is no problem.
Therefore, do not perform, this adjustment.
Please note that it should be fixed to mechanical center position when you moved and do not know original position.

**Adjustment Locations :**
**[BD board]**

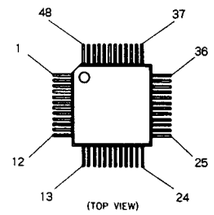




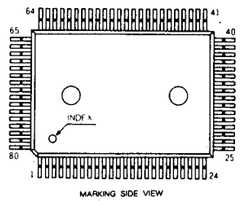

# SECTION 6
# DIAGRAMS

## 6-1. SEMICONDUCTOR LEAD LAYOUTS

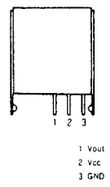
**CXA1372AQ**



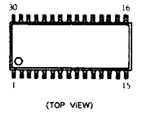

**CXD2500AQ**



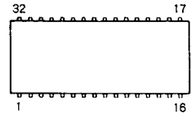

**GP1U59XB**




**LA6525M**

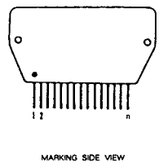



**M5218AFP**

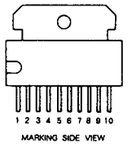



**PST572E**

**STK-4132MK2**

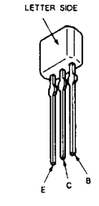



**TA7272P**




**DTA114ES**
**DTA144ES**
**DTC114ES**
**DTC143TS**
**2SB1094-LK**
**2SC2603-EF**
**2SC2724-CD**
**2SC3622A-LK**
**2SD2012**

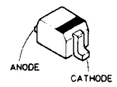
**DTA124ES**
**DTC144ES**
**2SA1175-HFE**



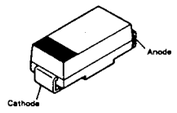

**2SC3112**

**2SK246-GR3**

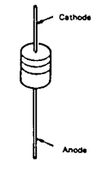
**DTZ3.9B**
**1SS352**
**1SS355**



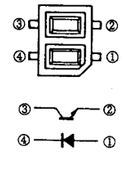

**EC10DS2**




**HZS6A1L**
**UZL-9M2**
**11ES2**

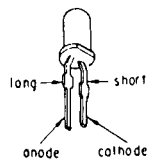



**NJL5165K-B**

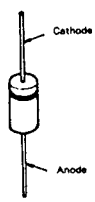


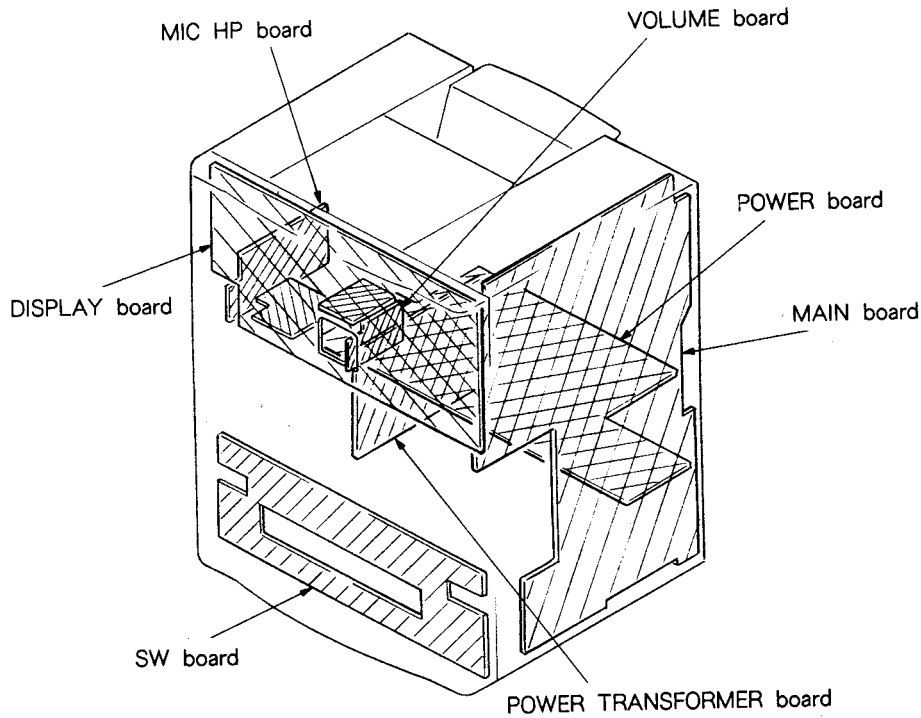
## 6-2. CIRCUIT BOARDS LOCATION

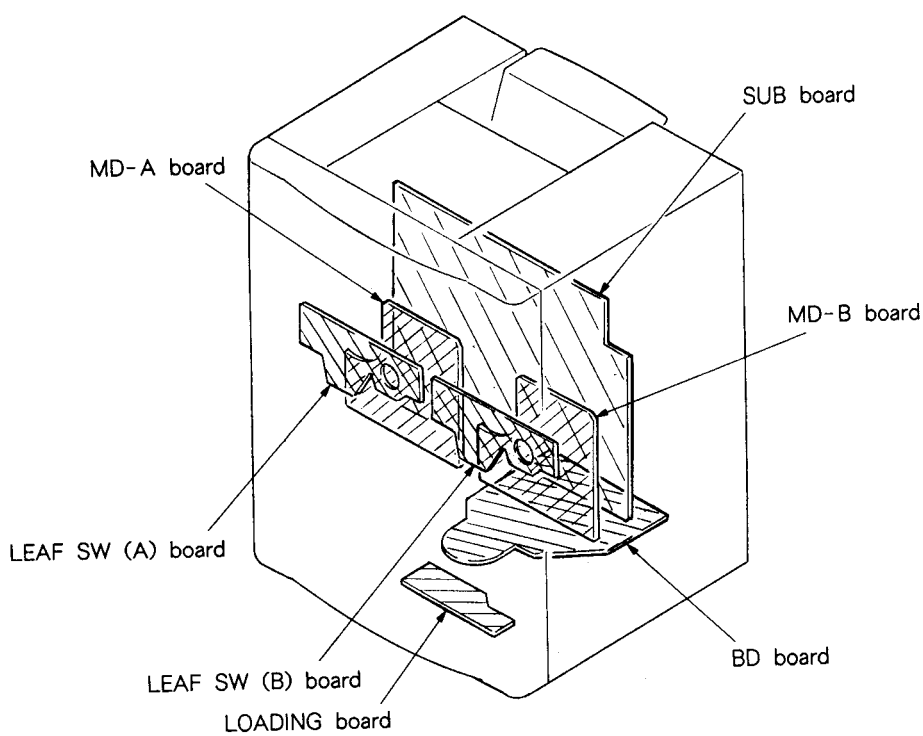
**SML1260S**
**SML1460E**
**SML1960A**
**SEL4510-D**




**UZ36BSB**
**1N4148M**

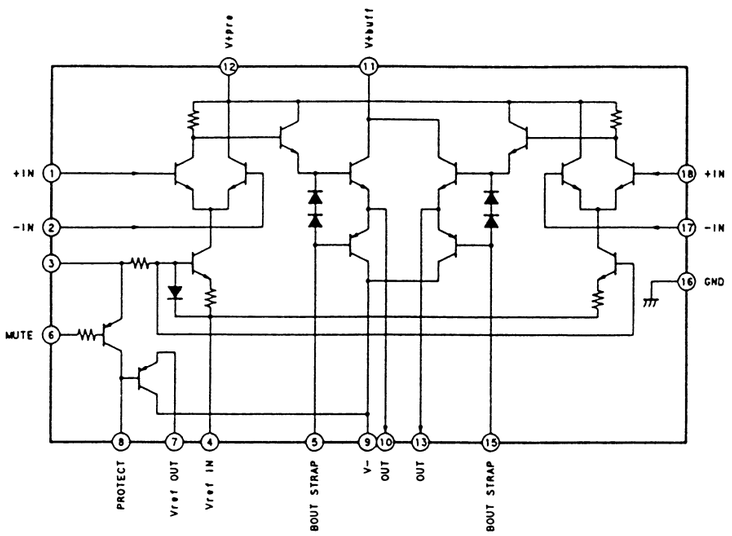


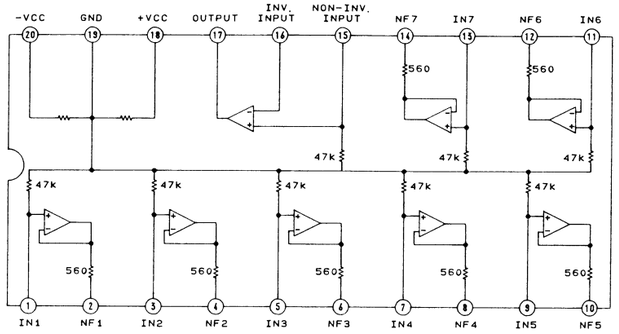



• IC Block Diagrams

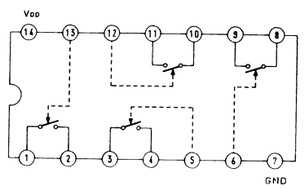
· IC801 STK-4132MK2



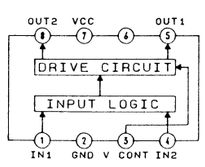

· IC201, 251 M5229P




· IC231, 236 MC14066BCP




· IC406 LB1639

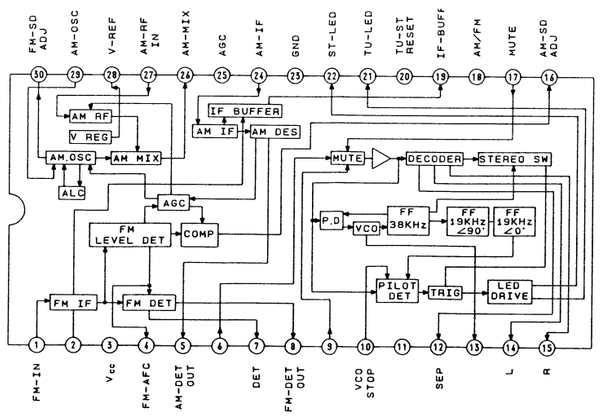



• Semiconductor Location

| Ref. No. | Location | Ref. No. | Location |
|---|---|---|---|
| D21 (*2) | C-4 | Q5 (*1) | B-8 |
| D81 | H-7 | Q5 (*2) | B-3 |
| D202 | J-8 | Q7 (*1) | D-9 |
| D205 (*3) | F-12 | Q7 (*2) | D-4 |
| D206 | F-11 | Q8 (*1) | D-9 |
| D207 (*3) | C-11 | Q8 (*2) | D-4 |
| D208 | G-8 | Q9 (*1) | B-8 |
| D401 | H-21 | Q9 (*2) | B-3 |
| D801 | D-23 | Q10 (*1) | B-9 |
| D810 | J-25 | Q10 (*2) | B-4 |
| D901 | B-26 | Q11 (*2) | E-4 |
| D902 | B-26 | Q51 (*1) | D-2 |
| D904 | E-22 | Q51 (*2) | D-7 |
| D905 | B-24 | Q52 (*1) | D-2 |
| D906 | B-25 | Q52 (*2) | D-7 |
| D907 | C-24 | Q53 (*1) | D-6 |
| D909 | E-21 | Q54 (*1) | D-6 |
| D910 | C-23 | Q101 | G-10 |
| D914 | C-11 | Q102 | F-9 |
| D915 | B-22 | Q103 | I-9 |
| D916 | B-22 | Q201 | F-16 |
| D921 | F-12 | Q202 | H-10 |
| D923 | B-27 | Q231 (*3) | E-12 |
| D924 | C-27 | Q232 | E-11 |
| | | Q233 | H-10 |
| IC51 | F-7 | Q234 | J-8 |
| IC81 | H-8 | Q235 (*3) | B-12 |
| IC201 | G-17 | Q236 (*3) | C-12 |
| IC231 | E-13 | Q237 | I-9 |
| IC232 | D-12 | Q251 | D-17 |
| IC234 | F-17 | Q252 | H-10 |
| IC236 (*3) | C-12 | Q301 | D-14 |
| IC251 | E-18 | Q302 | D-13 |
| IC301 (*1) | C-18 | Q901 | E-27 |
| IC302 | D-15 | Q903 | E-26 |
| IC406 | H-21 | Q904 | E-27 |
| IC801 | E-25 | Q905 | E-21 |
| IC901 | C-26 | Q906 | E-22 |
| IC902 | E-14 | Q907 | E-21 |
| IC9001 | B-10 | Q908 | C-24 |
| | | Q911 | E-14 |
| Q1 (*1) | D-8 | Q8001 | D-21 |
| Q1 (*2) | D-3 | Q9001 | B-11 |
| Q2 (*4) | D-7 | Q9002 | B-11 |
| Q4 (*1) | E-9 | Q9003 | B-10 |
| Q4 (*2) | E-4 | | |

(*1): H170/AEP, EE, G, IT, H700 MODEL
(*2): H170/E, Saudi Arabia, Australian, H170K MODEL
(*3): H170K MODEL
(*4): H170 G, IT MODEL

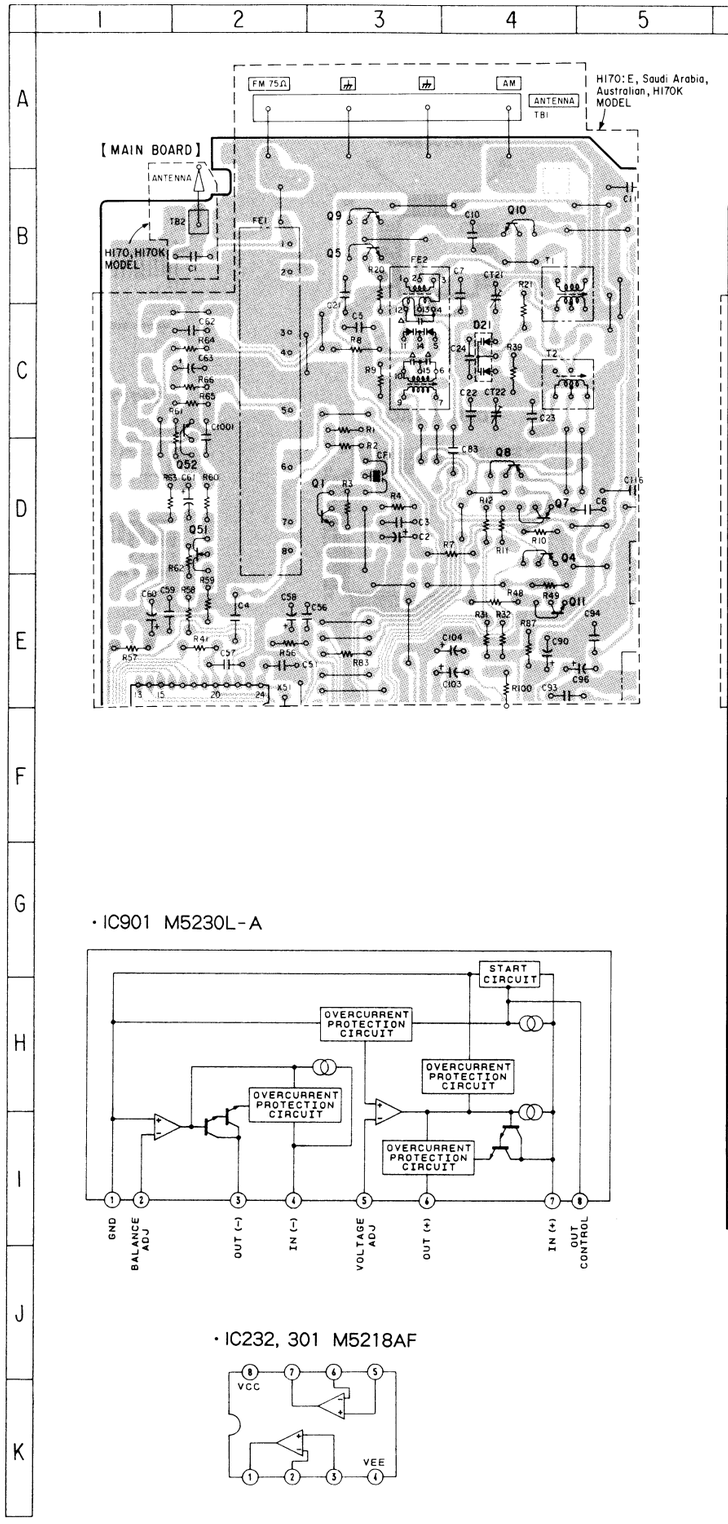
· IC81 LA1851N








• See page 34, 35 for Semiconductor Lead Layouts and Circuit Boards




· IC901 M5230L-A




· IC232, 301 M5218AF

4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

HI70:E, Saudi Arabia, Australian, HI70K MODEL

AM ANTENNA TBI

START CIRCUIT

OVERCURRENT PROTECTION CIRCUIT

OVERCURRENT PROTECTION CIRCUIT

OUT (+) IN (+) OUT CONTROL

AF

【MAIN BOARD】

FM 75Ω AM TBI ANTENNA

HI70:AEP,EE,G,IT H700 MODEL

HI70:G,IT MODEL

HI70,HI70K MODEL EXCEPT:G,IT MODEL

HI70K MODEL

HI70,H700 MODEL

EXCEPT:G,IT MODEL

SPEAKER IMPEDANCE USE 6~16Ω TM301

L VIDEO/AUX R J301

EXCEPT:HI70: G,IT MODEL

HI70:AEP,EE,G,IT H700 MODEL

IC9001 IC236 IC232 IC231 IC1051 IC81 IC1902 IC302 IC251 IC234 IC201

CN901 CN902 CN903 CN904 CN905 CN906 CN907 CN908 CN201 CN202 CN203 CN204 CN205 CN206 CN207

TO SUB BOARD CN408

TO SUB BOARD CN407

TO BD BOARD CN101

TO DISPLAY BOARD CN1001

TO DISPLAY BOARD CN1002

TO DISPLAY BOARD CN1003

I-643-347

13

16

【POWER BOARD】

CN901 CN902 CN803 CN802

HI70:G,IT MODEL

EXCEPT:HI70: G,IT MODEL

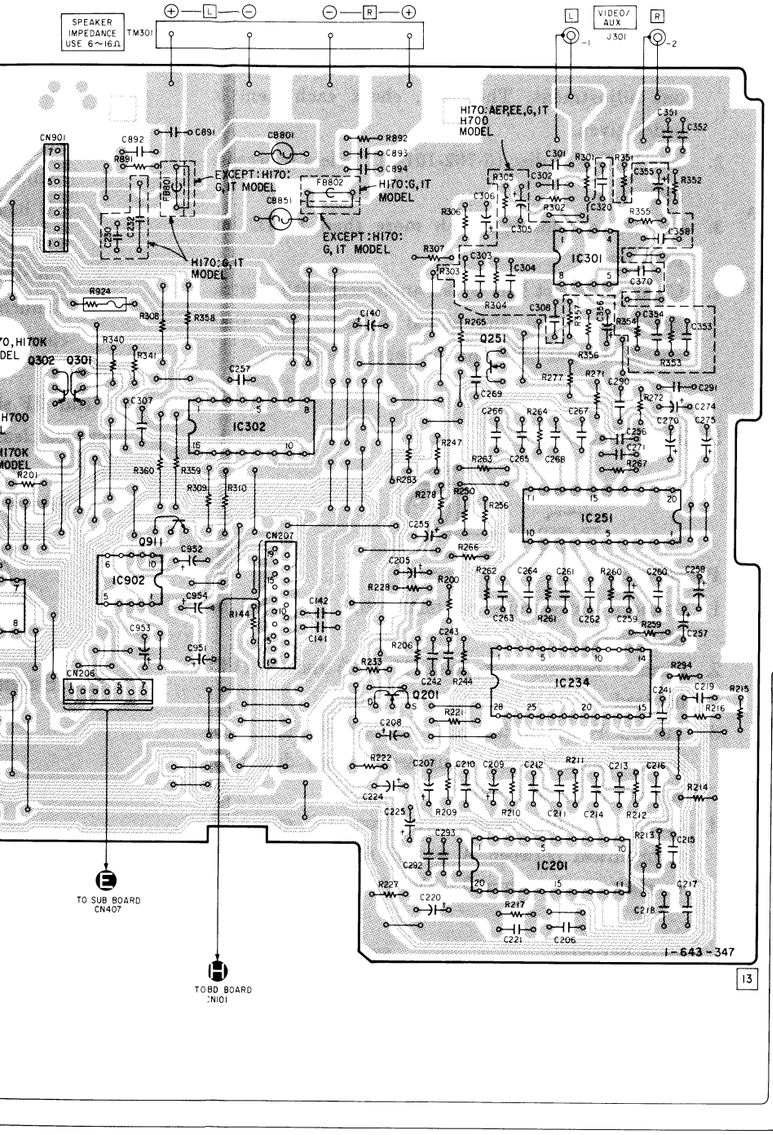
【VOLUME BOARD】

CN404 CN405 CN401 CN402 IC406

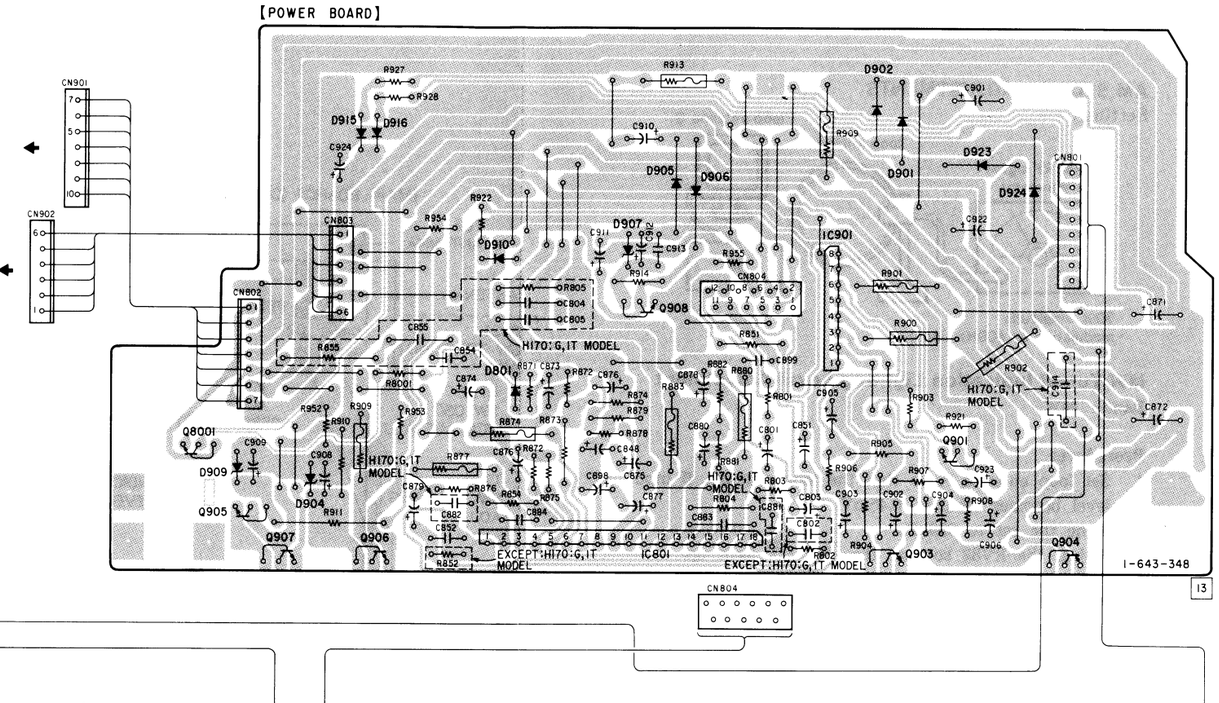
TO MIC HEADPHONE BOARD CN602

TO DISPLAY BOARD CN1004

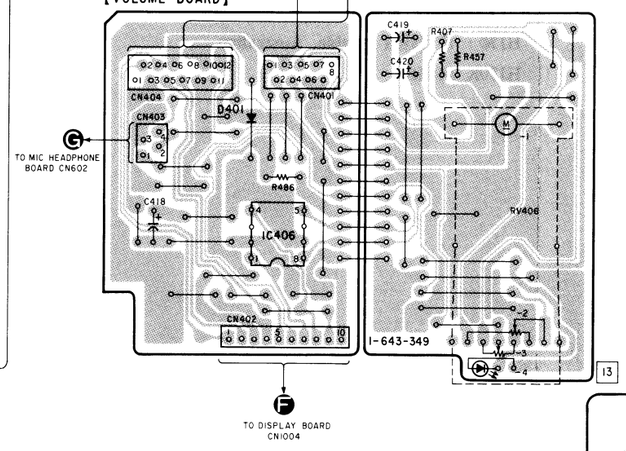
I-643-349



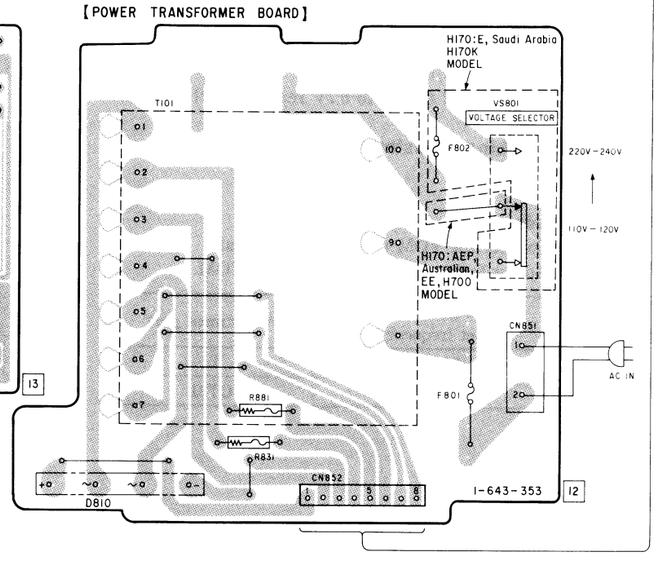

【POWER BOARD】




【VOLUME BOARD】




【POWER TRANSFORMER BOARD】

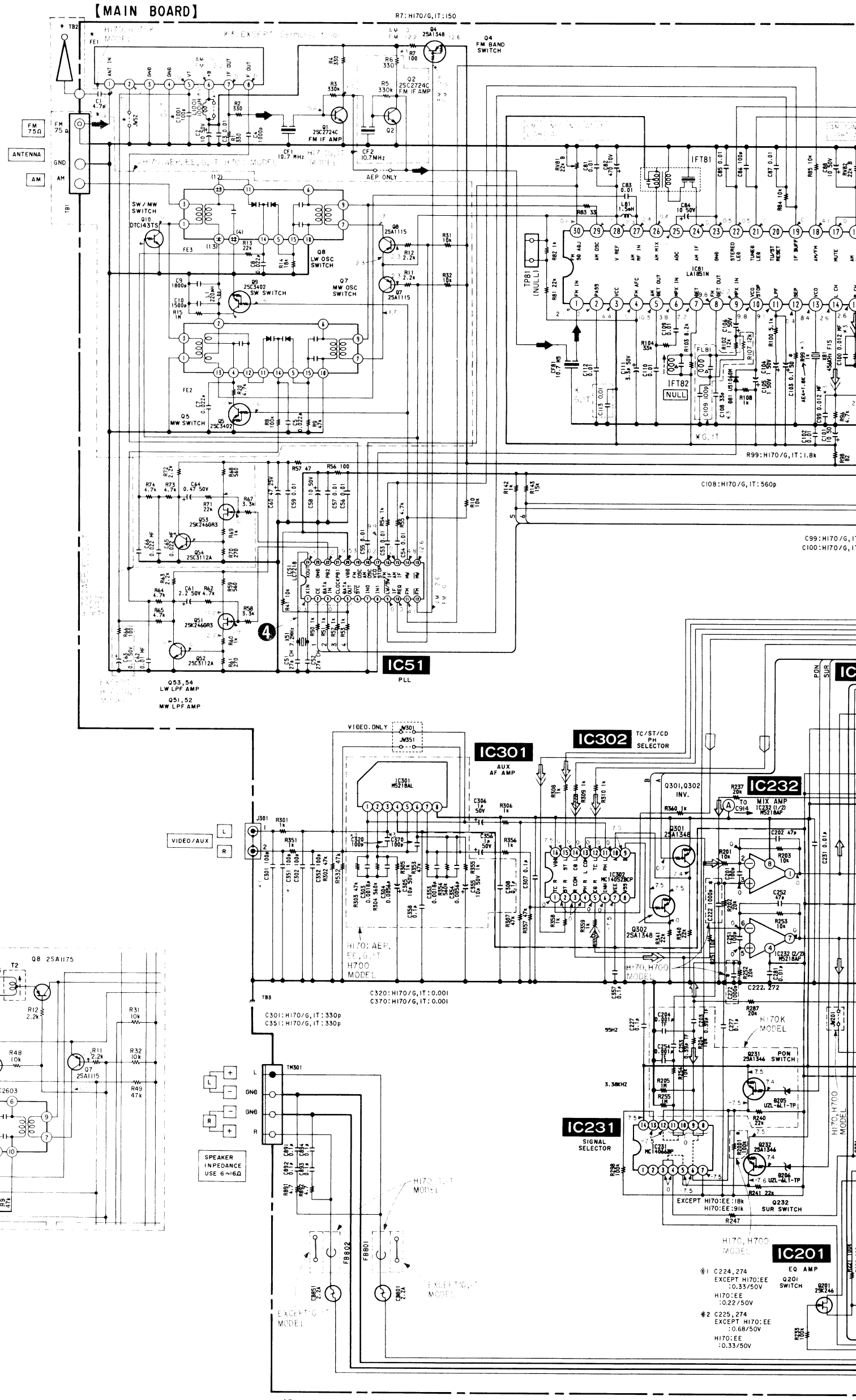


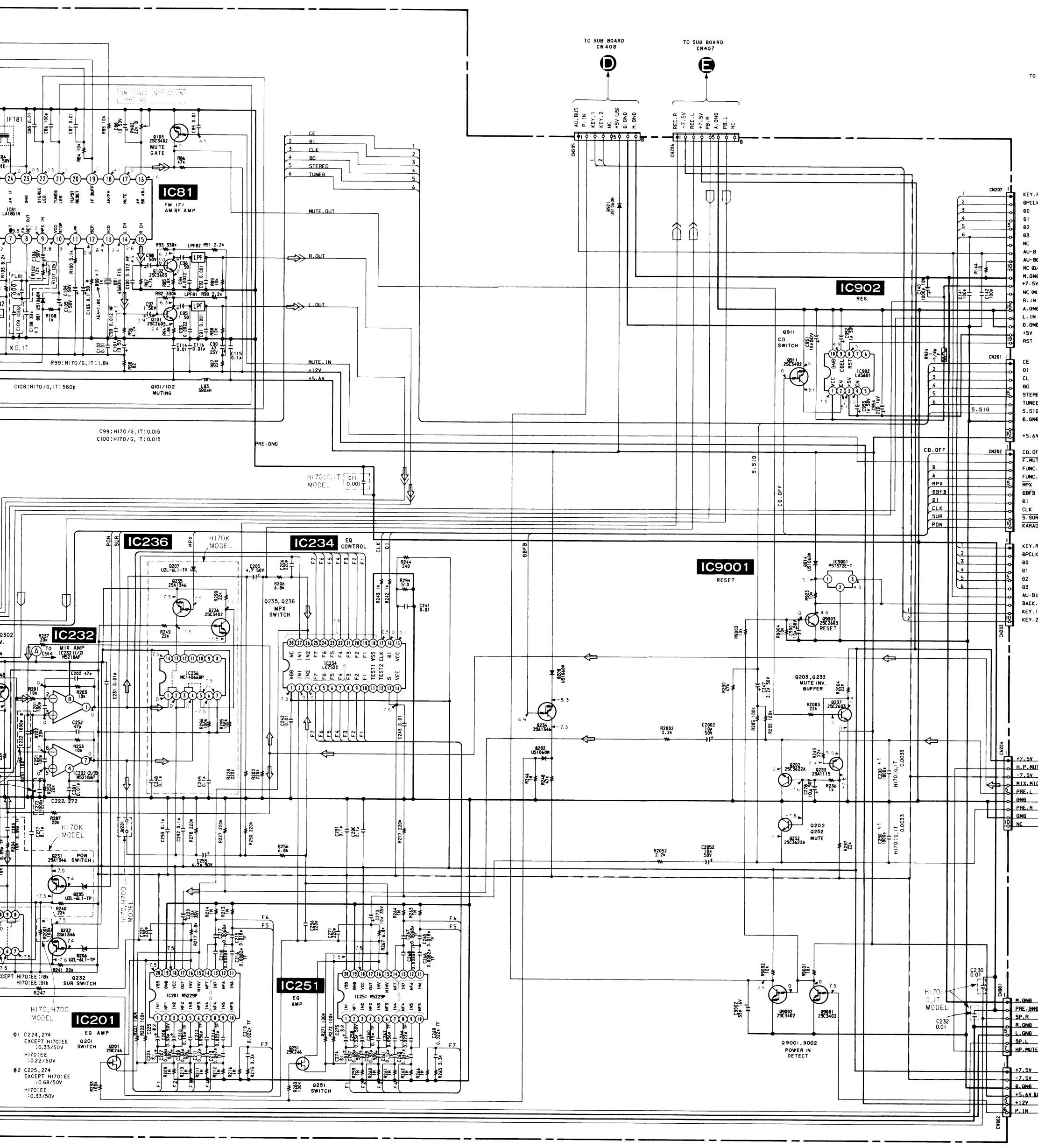
## 6-4. SCHEMATIC DIAGRAM – MAIN SECTION –

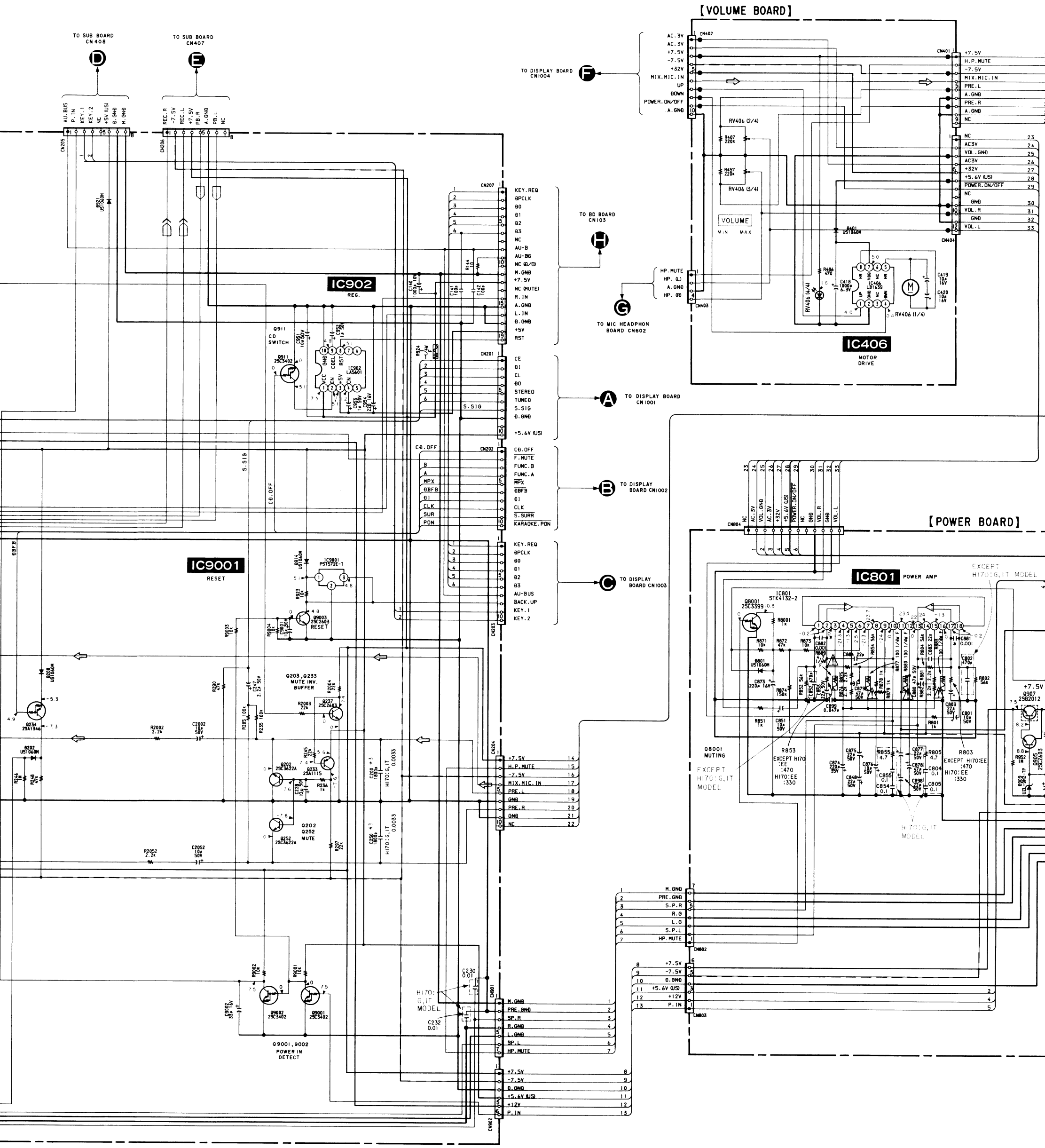
•See page 64 for Wave forms and Note.

1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9

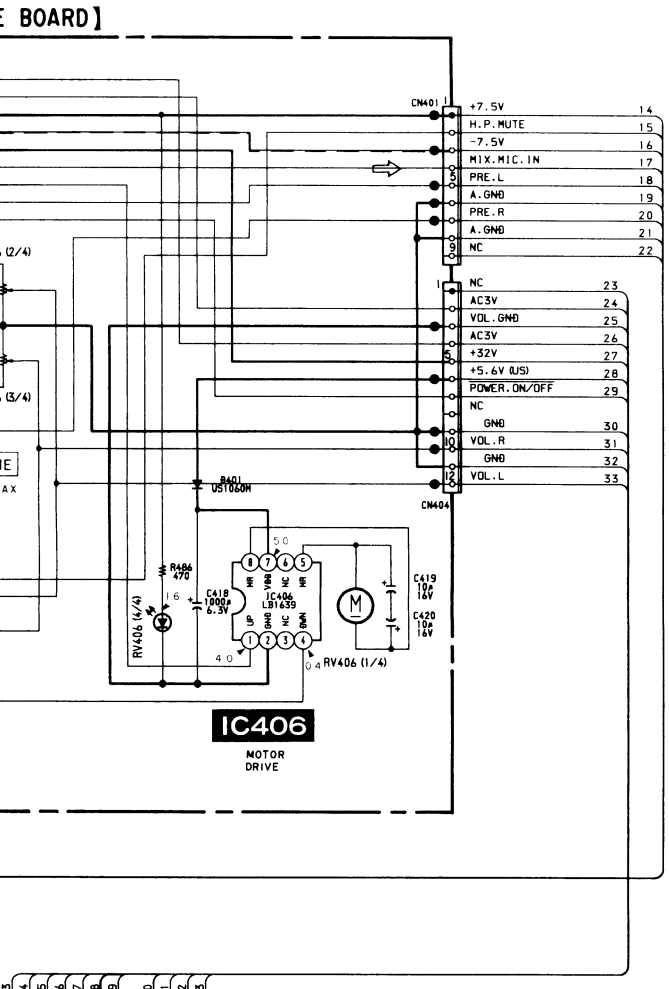
【MAIN BOARD】



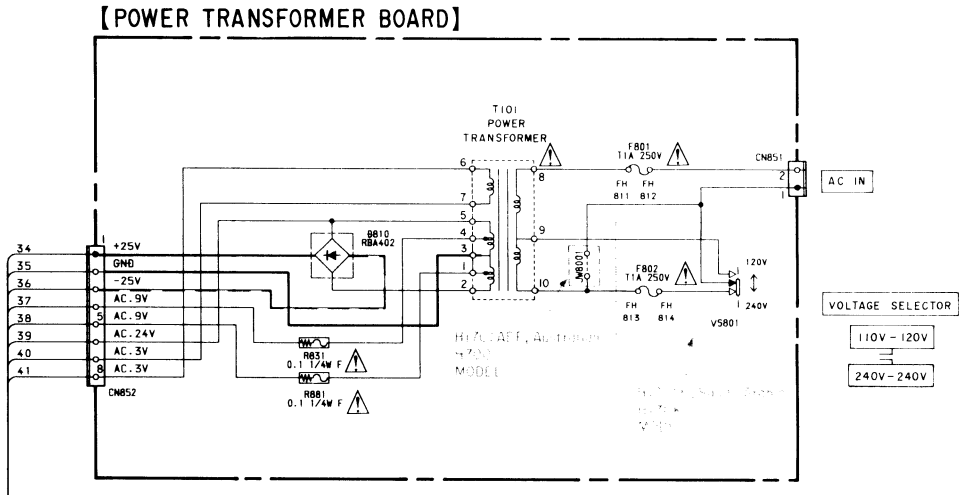

IC81
FM IF/
AM RF AMP
IC902
REG.
IC9001
RESET
IC236
IC234
EQ
CONTROL
IC232
MIX AMP
IC232 (1/2)
M5218AP
IC232 (2/2)
M5218AP
IC201
EQ AMP
IC251
EQ
AMP
Q911
CD
SWITCH
Q203, Q233
MUTE INV.
BUFFER
Q202
Q252
MUTE
Q9001, 9002
POWER IN
DETECT
Q235, Q236
MPX
SWITCH
Q201
SW
Q231
PON
SWITCH
Q232
SUR
SWITCH
Q251
SWITCH
TO SUB BOARD
CN408
TO SUB BOARD
CN407
CN205
CN206
CN207
CN201
CN202
CN203
CN204
CN901
CN902
AU.BUS
P.IN
KEY.1
KEY.2
NC
+5V (US)
D.GND
M.GND
REC.R
-7.5V
REC.L
+7.5V
PB.R
A.GND
PB.L
NC
CE
DI
CLK
DO
STEREO
TUNED
TUNING
TV/ST
RESET
IF BUFF
AM/FM
MUTE
AM SD ADJ
AM IF
GND
MUTE.OUT
R.OUT
L.OUT
MUTE.IN
+12V
+5.6V
PRE.GND
S.SIG
CD.OFF
PON
SUR
MPX
HI70K MODEL
HI70, H700 MODEL
HI70:G,IT MODEL
R99:HI70/G,IT:1.8k
C108:HI70/G,IT:560p
C99:HI70/G,IT:0.015
C100:HI70/G,IT:0.015
Q101/102 MUTING
L83 390uH
*G,IT
*1 C224,274
EXCEPT HI70:EE
:0.33/50V
HI70:EE
:0.22/50V
*2 C225,274
EXCEPT HI70:EE
:0.68/50V
HI70:EE
:0.33/50V
C222, 272
R247
EXCEPT HI70:EE:18k
HI70:EE:91k
MUTE
GATE
Q103
2SC5402
KEY.F
ØPCLK
Ø0
Ø1
Ø2
Ø3
NC
AU-B
AU-BG
NC ØD
M.GND
+7.5V
NC ØD
R.IN
A.GND
L.IN
Ø.GND
+5V
RST
CE
Ø1
CL
Ø0
STERE
TUNED
S.SIG
Ø.GND
+5.6V
CD.OF
F.MUT
FUNC.
FUNC.
MPX
ØBFB
Ø1
CLK
SUR
PON
KEY.R
ØPCLK
Ø0
Ø1
Ø2
Ø3
AU-BU
BACK.
KEY.1
KEY.2
+7.5V
H.P.MUT
-7.5V
MIX.MIC
PRE.L
GND
PRE.R
GND
NC
M.GND
PRE.GND
SP.R
R.GND
L.GND
SP.L
HP.MUTE
+7.5V
-7.5V
D.GND
+5.6V D
+12V
P.IN


【VOLUME BOARD】
【POWER BOARD】
IC902 REG.
IC9001 RESET
IC406 MOTOR DRIVE
IC801 POWER AMP
TO SUB BOARD CN408
TO SUB BOARD CN407
TO DISPLAY BOARD CN1004
TO BD BOARD CN103
TO MIC HEADPHON BOARD CN602
TO DISPLAY BOARD CN1001
TO DISPLAY BOARD CN1002
TO DISPLAY BOARD CN1003
CN205
CN206
CN207
CN201
CN202
CN203
CN204
CN901
CN902
CN402
CN401
CN403
CN404
CN804
CN802
CN803
AU.BUS
P.IN
KEY.1
KEY.2
NC
+5V (US)
B.GND
M.GND
REC.R
-7.5V
REC.L
+7.5V
PB.R
A.GND
PB.L
KEY.REQ
ØPCLK
Ø0
Ø1
Ø2
Ø3
AU-B
AU-BG
NC (Ø/O)
+7.5V
NC (MUTE)
R.IN
L.IN
CE
CL
STEREO
TUNED
S.SIG
+5.6V (US)
CD.OFF
F.MUTE
FUNC.B
FUNC.A
MPX
ØBFB
CLK
SUB
PON
KARAOKE.PON
BACK.UP
AC.3V
MIX.MIC.IN
UP
DOWN
POWER.ON/OFF
H.P.MUTE
HP.(L)
HP.(R)
PRE.L
PRE.R
VOL.GND
VOL.R
VOL.L
VOLUME
MIN
MAX
Q911 CD SWITCH
Q203,Q233 MUTE INV. BUFFER
Q202 Q252 MUTE
Q9001,9002 POWER IN DETECT
Q8001 MUTING
EXCEPT HI70:G,IT MODEL
HI70:G,IT MODEL
S.SIG
CD.OFF
ØBFB

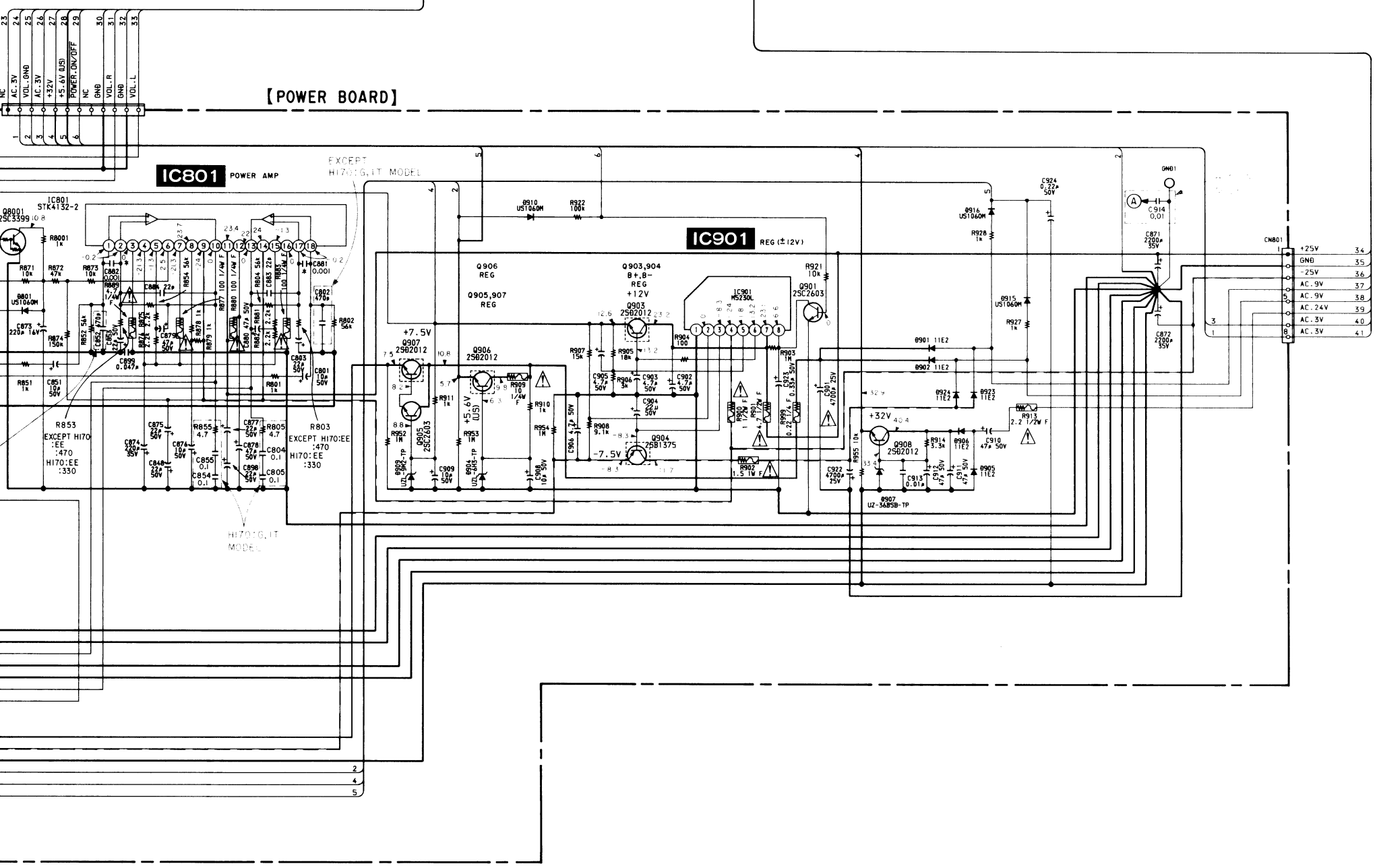
E BOARD]




【POWER TRANSFORMER BOARD】




【POWER BOARD】



【SW BOARD】

【SUB BOARD】

IC404 SIGNAL OR LED DRIVER

IC401 M50964-251FP DECK CONTROLLER

IC403 AMS AMP

IC202

IC201 SIGNAL SELECTOR

| | | | |
|---|---|---|---|
| S1525 | CD SYNC / START | S1524 | PAUSE B |
| S1524 | HIGH SPEED | S1523 | REC B |
| S1518 | A | S1502 | CD |
| S1516 | AMS A | S1503 | CD |
| S1520 | A | S1504 | CD |
| S1519 | A | S1505 | CD |
| S1517 | AMS A | S1506 | REPEAT CD |
| S1511 | B | S1507 | PROGRAM CD |
| S1521 | AMS B | S1508 | SHUFFLE CD (PLAY MODE) |
| S1514 | B | S1022 | CONTINUE CD |
| S1513 | B | S1509 | EDIT/TIME FADE CD |
| S1522 | AMS B | S1510 | CHECK CD |
| S1501 | OPEN CLOSE CD | | |

10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21

Q401,Q402
CAPSTAN MOTOR
B+ SWITCH

IC401
M50964-251FP
DECK
CONTROLLER

IC402
REEL MOTOR
DRIVER

IC405
RESET

IC205
TAPE MODE
CONTROL

IC202

IC203

IC204

Q403,Q404,
Q411
H/L
SWITCH

Q408,
Q414,
Q415
AU BUS
I/O
BUFFER

Q409,Q410
DOLBY/PASS
EXCHANGE
INV.

CN402
SHUT
+5V
HALF
70EQ
METAL
GNΘ
STOP

CN403
+7.5V
PB L
GNΘ
PB R
-7.5V
REEL+
REEL-
+5V (MOTOR)
H/L
-7V (MOTOR)

CN404
SHUT
+5V
HALF
70EQ
METAL
GNΘ
STOP

CN405
+7.5V
PB L
GNΘ
PB R
-7.5V
REEL+
REEL-
+5V (MOTOR)
H/L
-7V (MOTOR)

CN406
BIAS
REC L
GNΘ
REC R
RELAY
+5V
DIRECTION
QUICK
NC
NC

CN407
REC.R
-7.5V
REC.L
+7.5V
PB.R
A.GNΘ
PB.L
NC

CN408
AU.BUS
P.IN
KEY1
KEY2
NC
+5V(US)
Θ.GNΘ
M.GNΘ

TO MAIN BOARD CN106

TO MAIN BOARD CN205

TP201
L
GNΘ
R
TEST POINT

【MD-A BOARD】

IC31
PB EQ AMP

HPI01
PLAYBACK
HEAD

CNP32

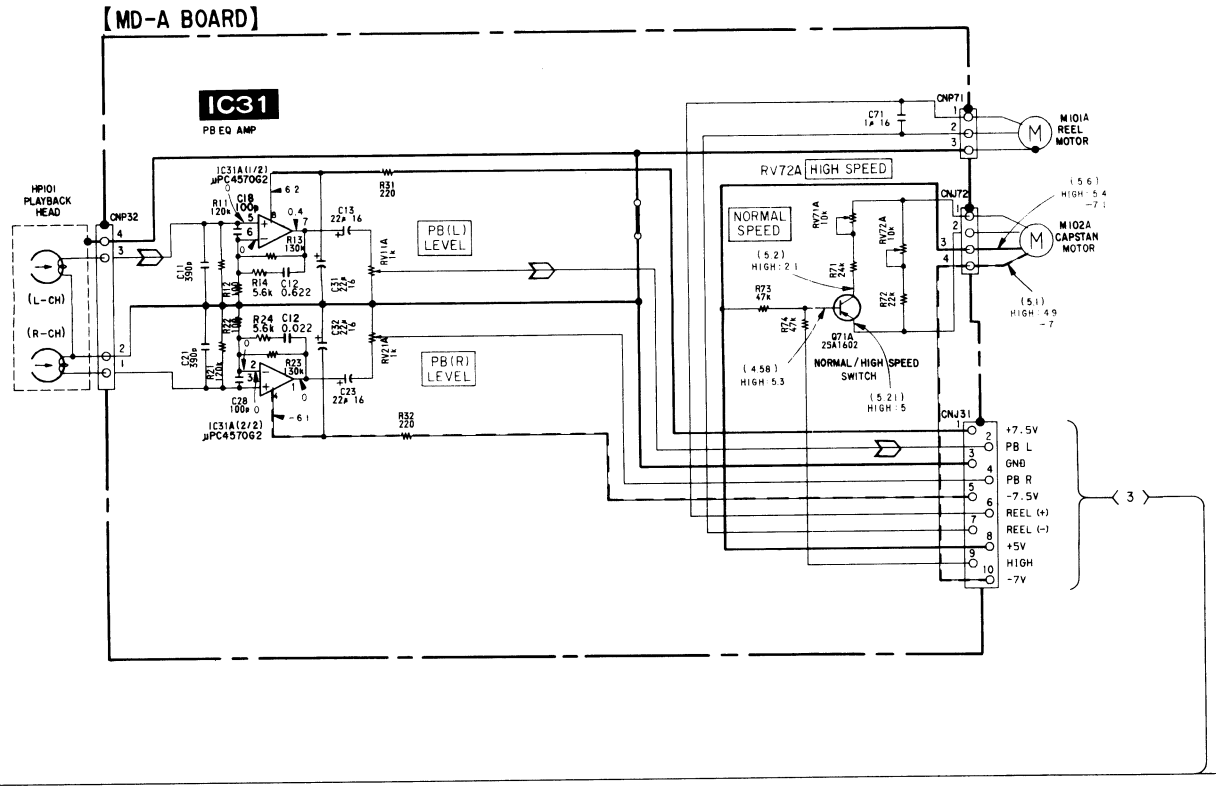
【MD-B BOARD】

HRPE101
REC/PB/
ERASE
HEAD

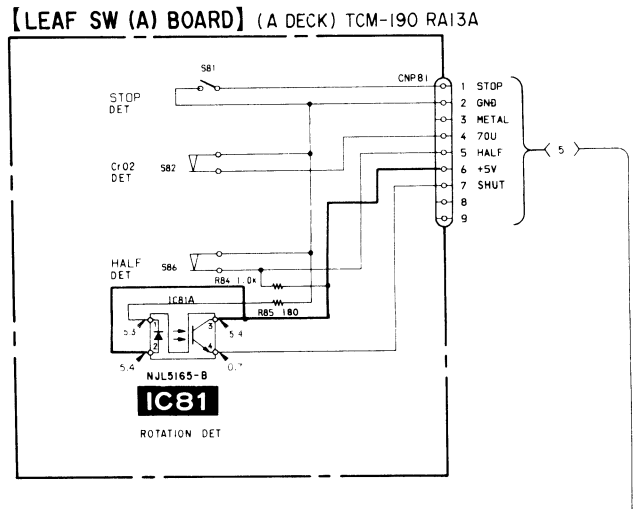
CNP32
(SJ-7P)

REC BIAS

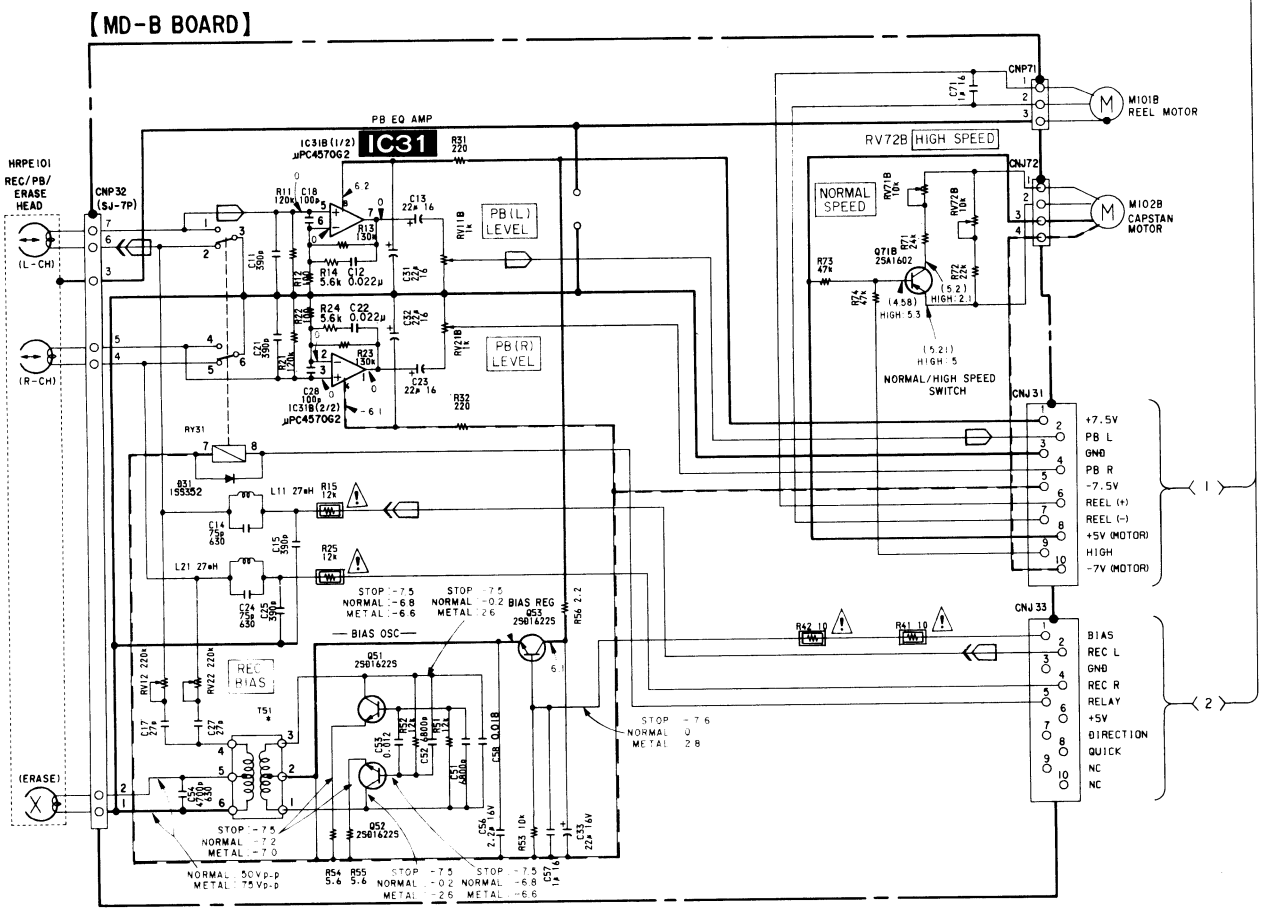
【MD-A BOARD】



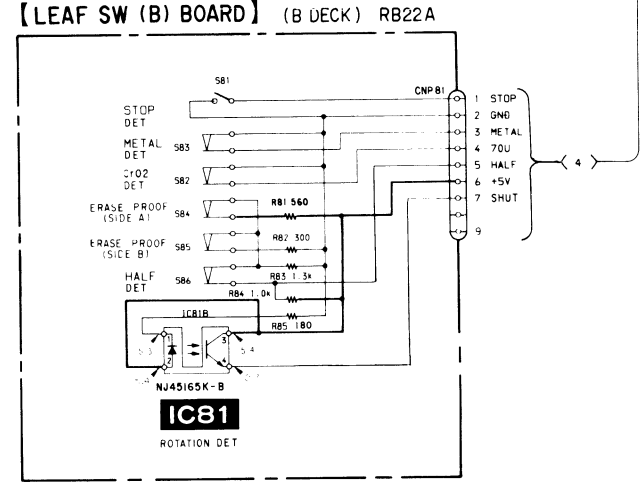

【LEAF SW (A) BOARD】 (A DECK) TCM-190 RA13A



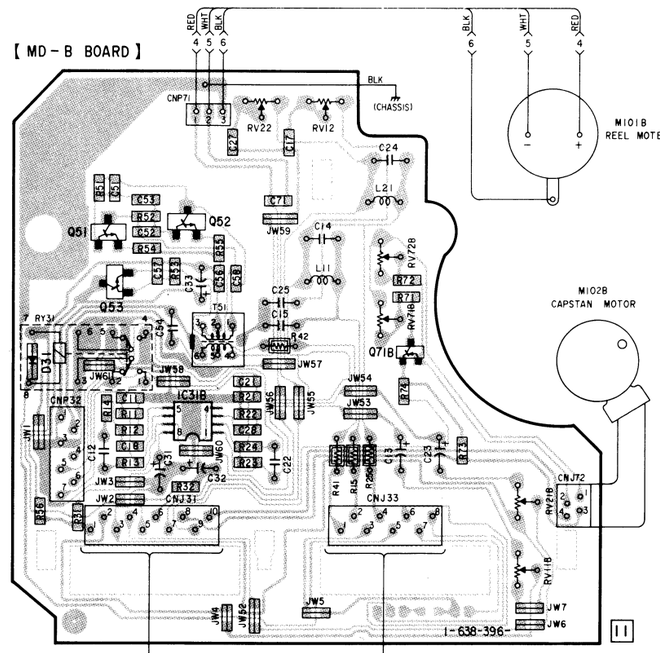

【MD-B BOARD】

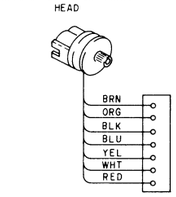



【LEAF SW (B) BOARD】 (B DECK) RB22A



【MD-B BOARD】

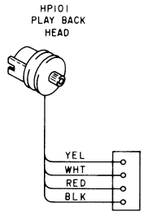


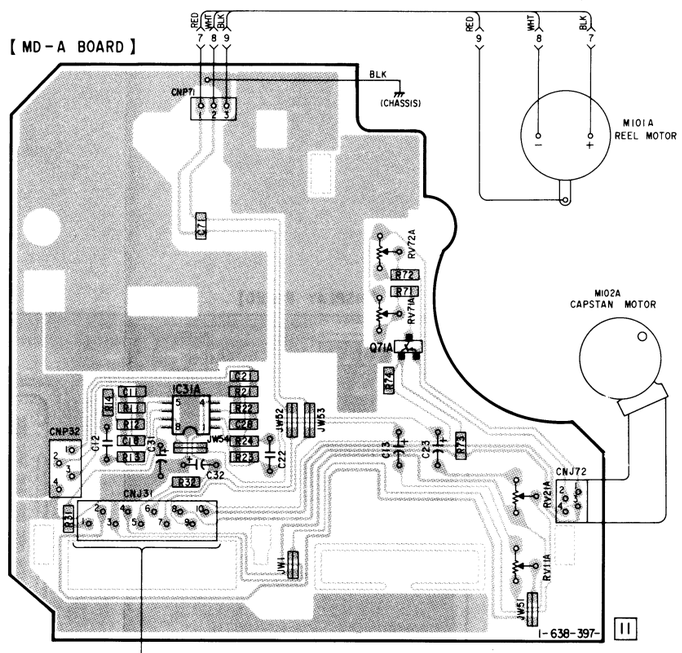







【MD-A BOARD】

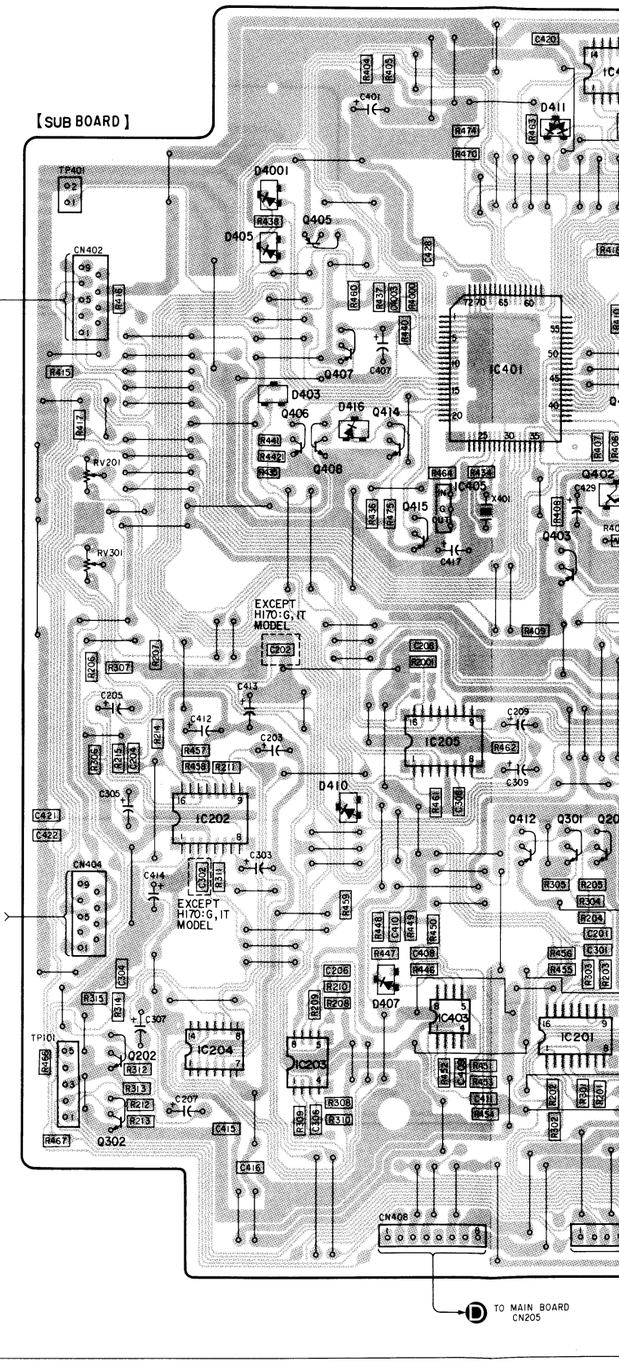




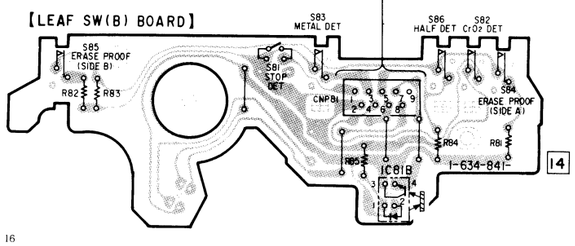




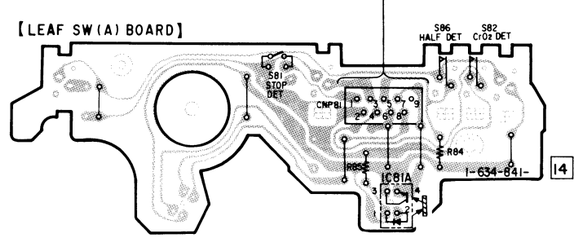

【SUB BOARD】



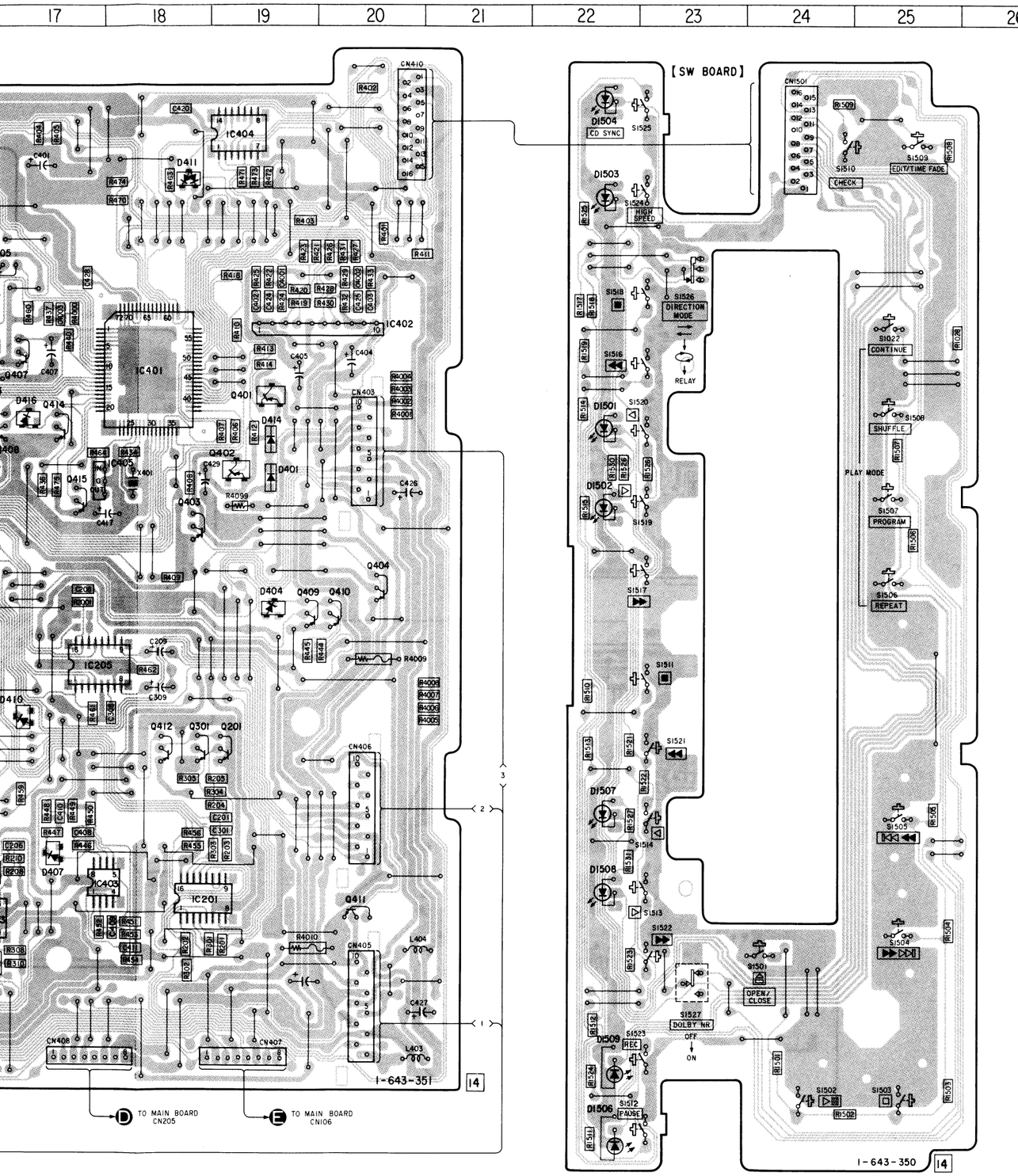

【LEAF SW(B) BOARD】




【LEAF SW(A) BOARD】




16

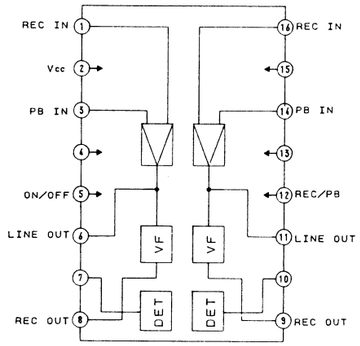



● Semiconductor Location

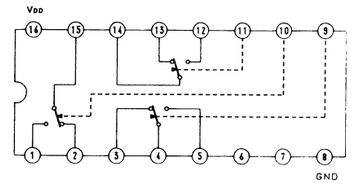
| Ref. No. | Location |
|---|---|
| D31 | C-2 |
| D401 | E-19 |
| D403 | D-16 |
| D404 | F-19 |
| D405 | C-16 |
| D407 | I-17 |
| D410 | G-17 |
| D411 | B-18 |
| D414 | D-19 |
| D416 | D-17 |
| D1501 | D-22 |
| D1502 | E-22 |
| D1503 | B-22 |
| D1504 | A-22 |
| D1506 | K-22 |
| D1507 | H-22 |
| D1508 | I-22 |
| D1509 | J-22 |
| D4001 | B-16 |
| IC31A | D-9 |
| IC31B | D-3 |
| IC81A | I-11 |
| IC81B | I-5 |
| IC201 | I-18 |
| IC202 | G-16 |
| IC203 | I-16 |
| IC204 | I-16 |
| IC205 | G-17 |
| IC401 | D-18 |
| IC402 | C-20 |
| IC403 | I-18 |
| IC404 | B-19 |
| IC405 | E-18 |
| Q51 | B-3 |
| Q52 | B-3 |
| Q53 | C-3 |
| Q71A | C-11 |
| Q71B | C-5 |
| Q201 | G-19 |
| Q202 | I-15 |
| Q301 | G-18 |
| Q302 | I-15 |
| Q401 | D-19 |
| Q402 | E-19 |
| Q403 | E-18 |
| Q404 | F-20 |
| Q405 | C-17 |
| Q406 | D-16 |
| Q407 | D-17 |
| Q408 | D-17 |
| Q409 | F-19 |
| Q410 | F-20 |
| Q411 | I-20 |
| Q412 | G-18 |
| Q414 | D-17 |
| Q415 | E-17 |

● IC Block Diagrams

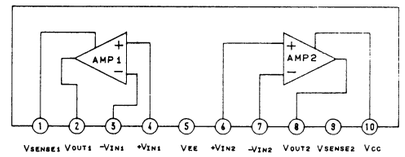
· IC202 CXA1101M




· IC201 CD4053BCM

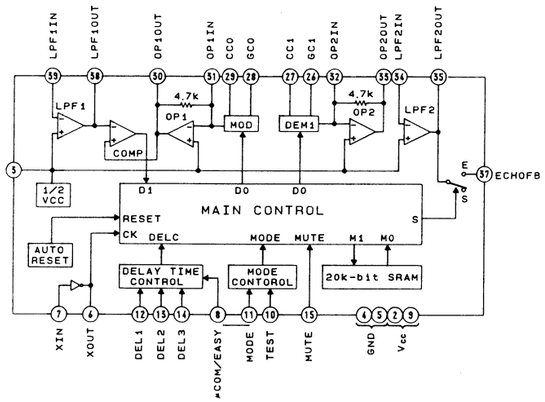



· IC402 TA7272P

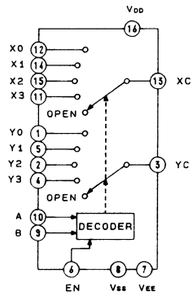


## • IC Block Diagrams

### · IC601 M50197FP




### · IC1004 CD4052BCM




## • Semiconductor Location

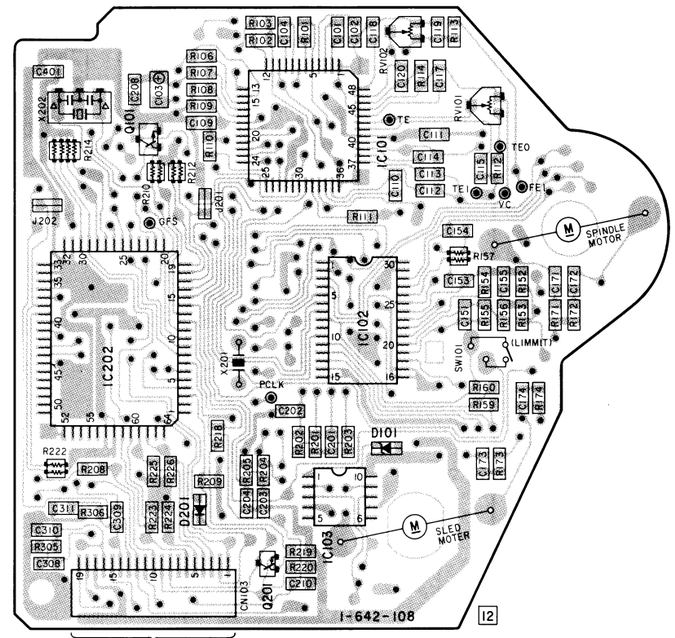
| Ref. No. | Location |
|---|---|
| D101 | D-4 |
| D201 | D-3 |
| D601 (*1) | D-7 |
| D602 (*1) | E-8 |
| D1001 | F-21 |
| D1002 | D-21 |
| D1004 | F-13 |
| D1005 | F-21 |
| D1007 | C-20 |
| D1030 | D-19 |
| D1031 | D-18 |
| D1051 | F-20 |
| D1052 | E-19 |
| D1053 | E-19 |
| D1054 | E-19 |
| D1055 | D-18 |
| D1057 (*1) | E-16 |
| D1058 | D-21 |
| D1059 | C-21 |
| IC101 | B-4 |
| IC102 | C-4 |
| IC103 | D-4 |
| IC106 | F-14 |
| IC201 | H-4 |
| IC202 | C-3 |
| IC203 | H-3 |
| IC301 | G-3 |
| IC302 | G-2 |
| IC501 | C-16 |
| IC601 (*1) | E-8 |
| IC602 | D-10 |
| IC1001 | G-15 |
| IC1002 | G-21 |
| IC1003 | C-19 |
| IC1004 | D-20 |
| IC1005 | F-13 |
| IC1006 | G-18 |
| IC1007 | G-19 |
| IC1008 | D-21 |
| Q101 | B-3 |
| Q201 | E-4 |
| Q601 | D-16 |
| Q602 | F-9 |
| Q603 (*1) | F-9 |
| Q1001 | D-21 |
| Q1002 | D-20 |
| Q1003 | D-20 |
| Q1004 | D-21 |
| Q1051 | E-13 |

(*1): H170K MODEL



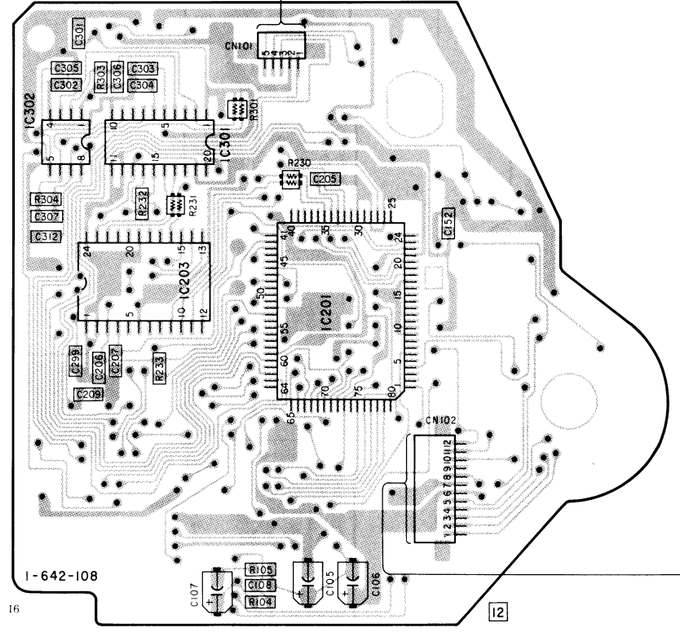


【BD BOARD】(CONDUCTOR SIDE)

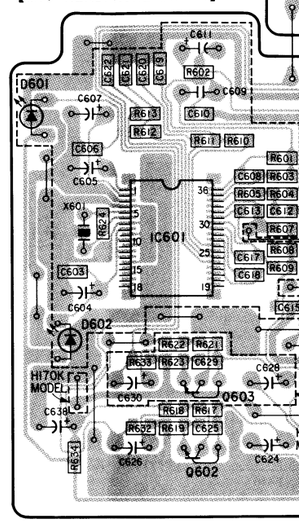



TO MAIN BOARD CN20

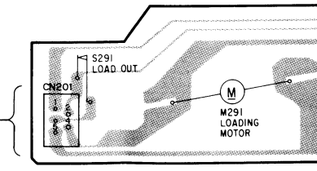
【BD BOARD】(COMPONENT SIDE)




【MIC HEADPHONE BOARD】

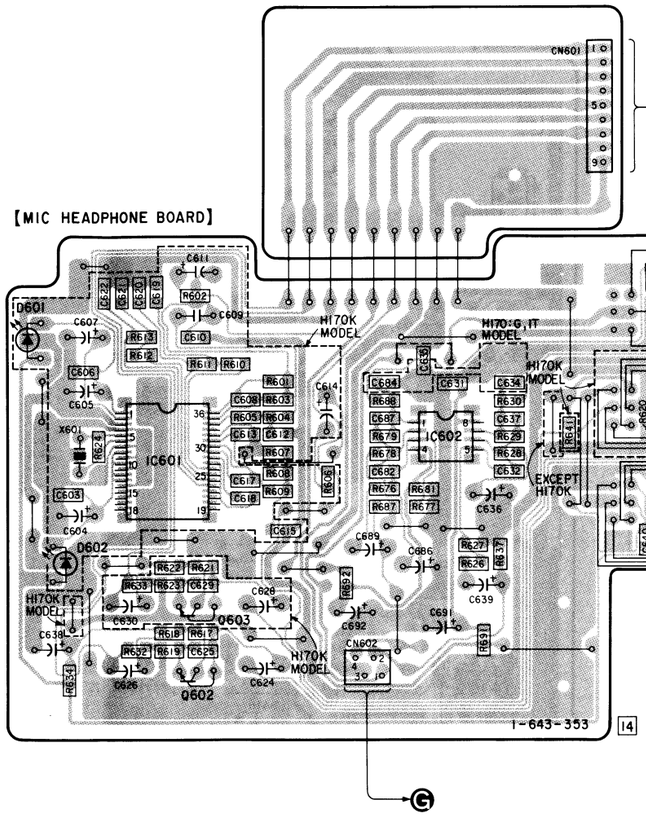



【LOADING BOARD】

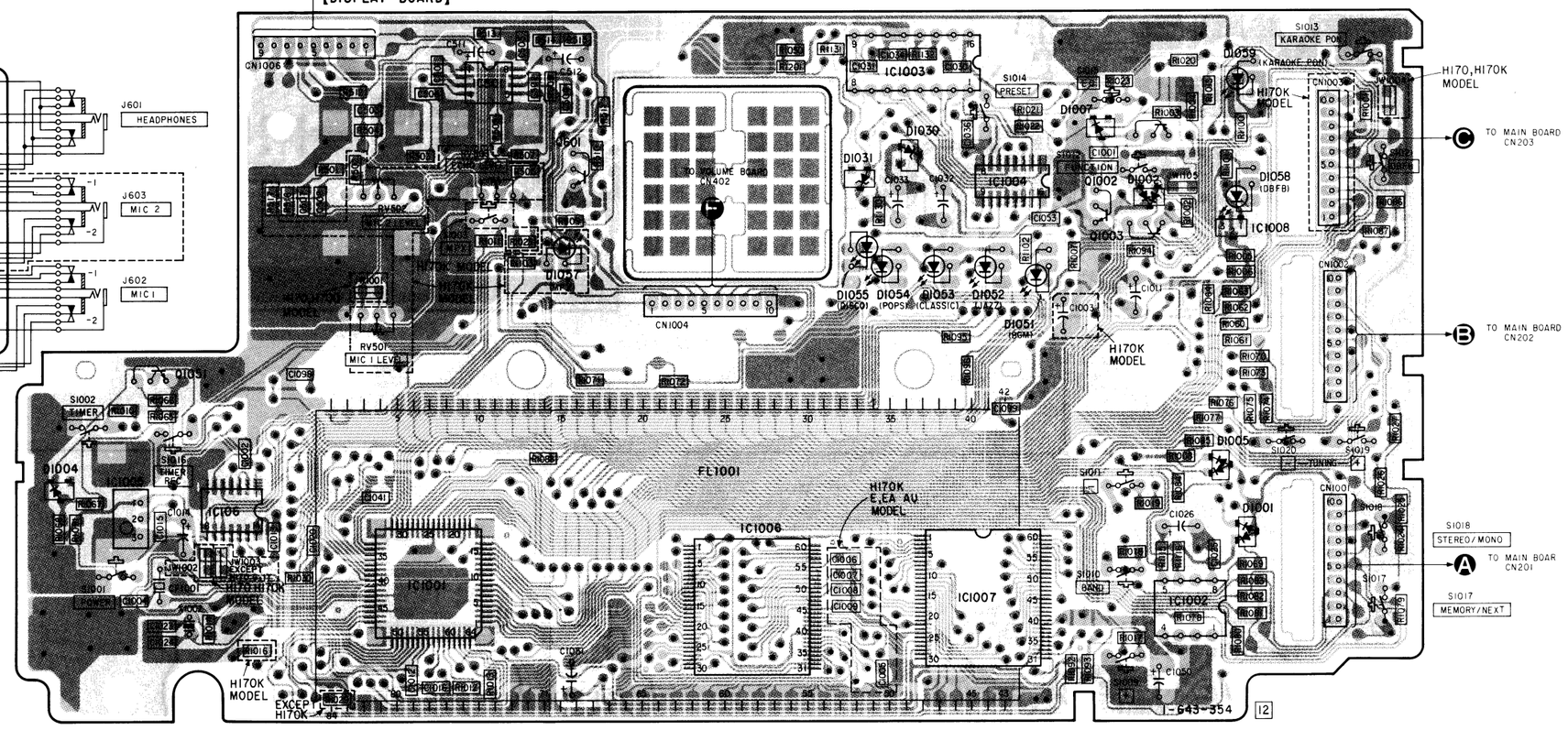


| | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

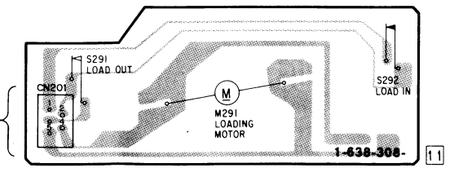
【MIC HEADPHONE BOARD】



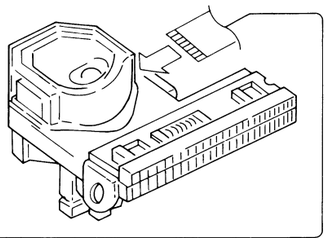

【DISPLAY BOARD】




【LOADING BOARD】




OPTICAL PICK-UP BLOCK (KSS-240A)



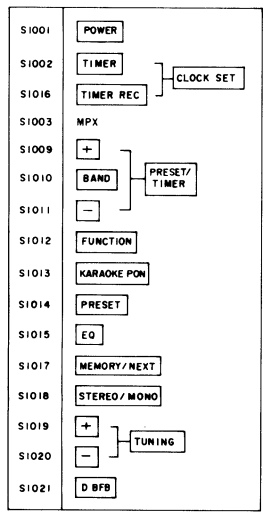
## 6-8. SCHEMATIC DIAGRAM – DISPLAY SECTION –

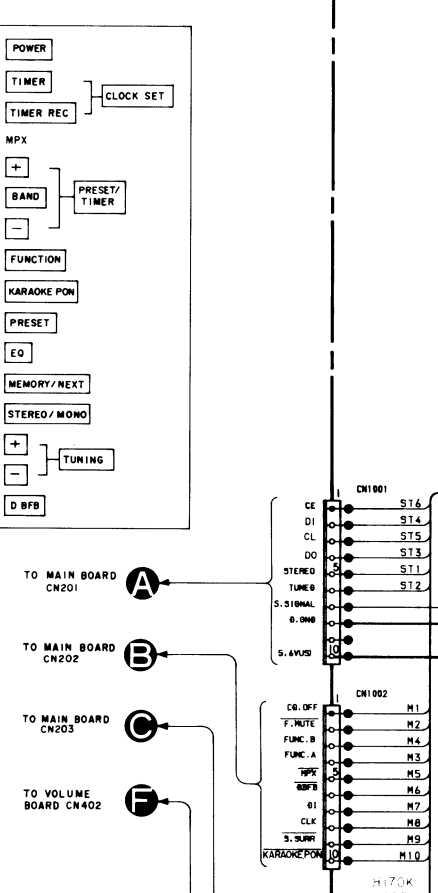
•See page 64 for Wave forms and Note.

【DISPLAY BOARD】

【MIC HEADPHONE BOARD】

【SUB COMBINED BOARD】



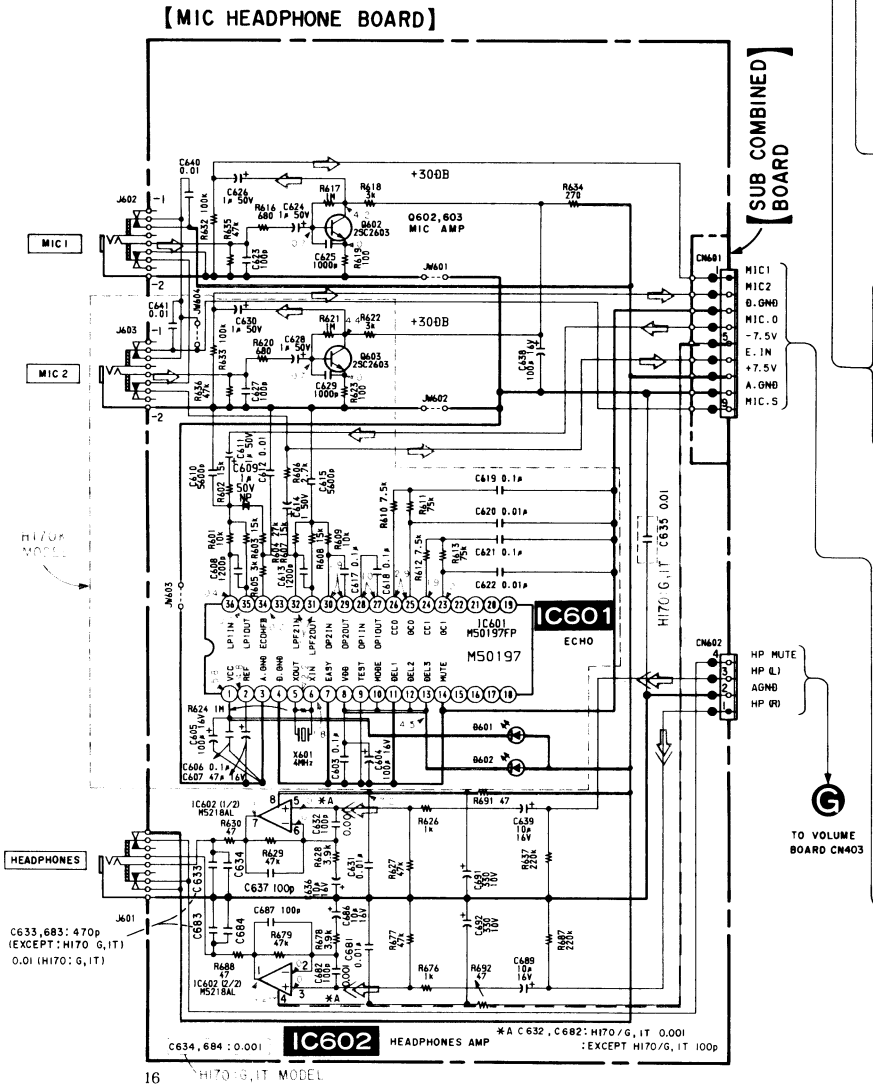




TO MAIN BOARD CN201 (A)

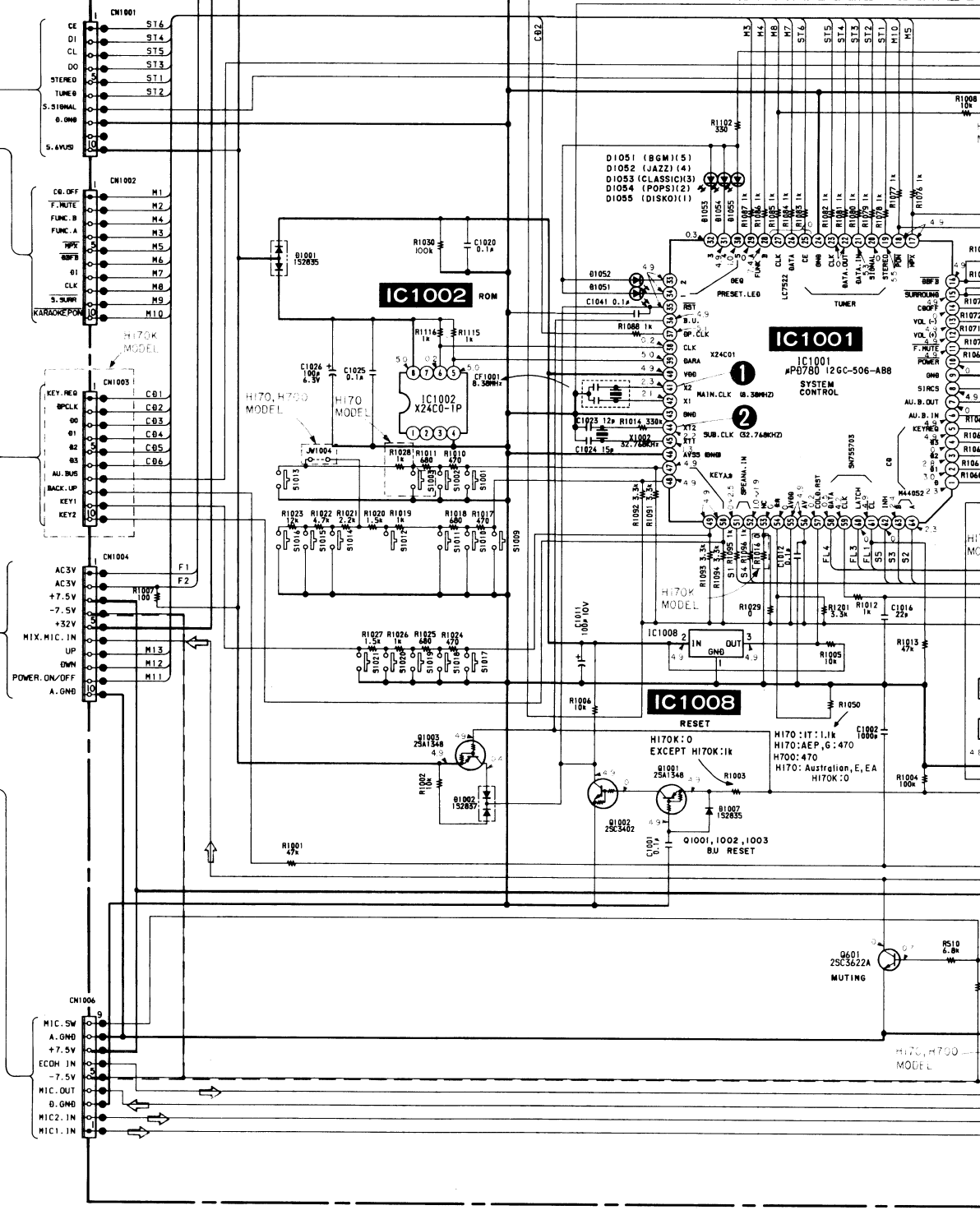
TO MAIN BOARD CN202 (B)

TO MAIN BOARD CN203 (C)

TO VOLUME BOARD CN402 (F)




TO VOLUME BOARD CN403 (G)



10 11 12 13 14 15 16 17 18 19 20

IC1007
LCD DRIVER

IC1006
SN755703

IC1007
SN755703

( MULTI DIGTAL DISPLAY )

FL1001

IC1006

IC1001
μPD780 12GC-506-AB8
SYSTEM CONTROL

IC1003
SPEANA DETECT

IC1005
REMOTE CONTROL RECEIVER
IC1005

IC1004
SIGNAL SELECTOR

IC1008
RESET

IC106
SN74HCU04NS
INV.

IC501 MIC AMP

IC501 (1/2)
M5218

IC501 (2/2)
M5218

Q1001, 1002, 1003
B.U RESET

Q1051
2SC2603
AU. BUS BUFFER

Q601
2SC3622A
MUTING

H170K MODEL

H170, H700 MODEL

H170K:0
EXCEPT H170K:1k

H170:1T:1.1k
H170:AEP,G:470
H700:470
H170: Australian, E, EA
H170K:0

RV501
MIC 1 LEVEL
MIN MAX

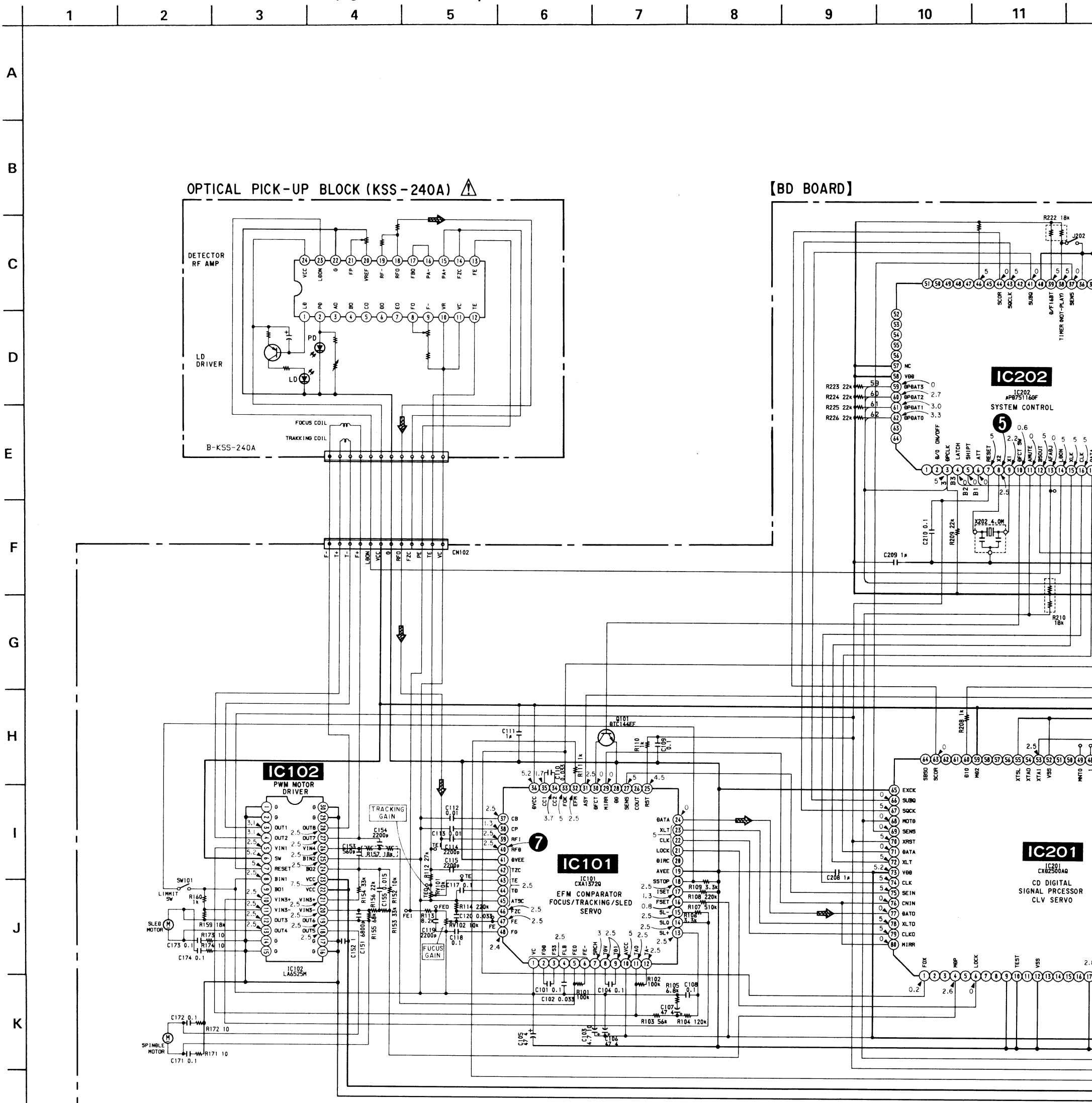
RV502
MIC 2 LEVEL
MIN MAX

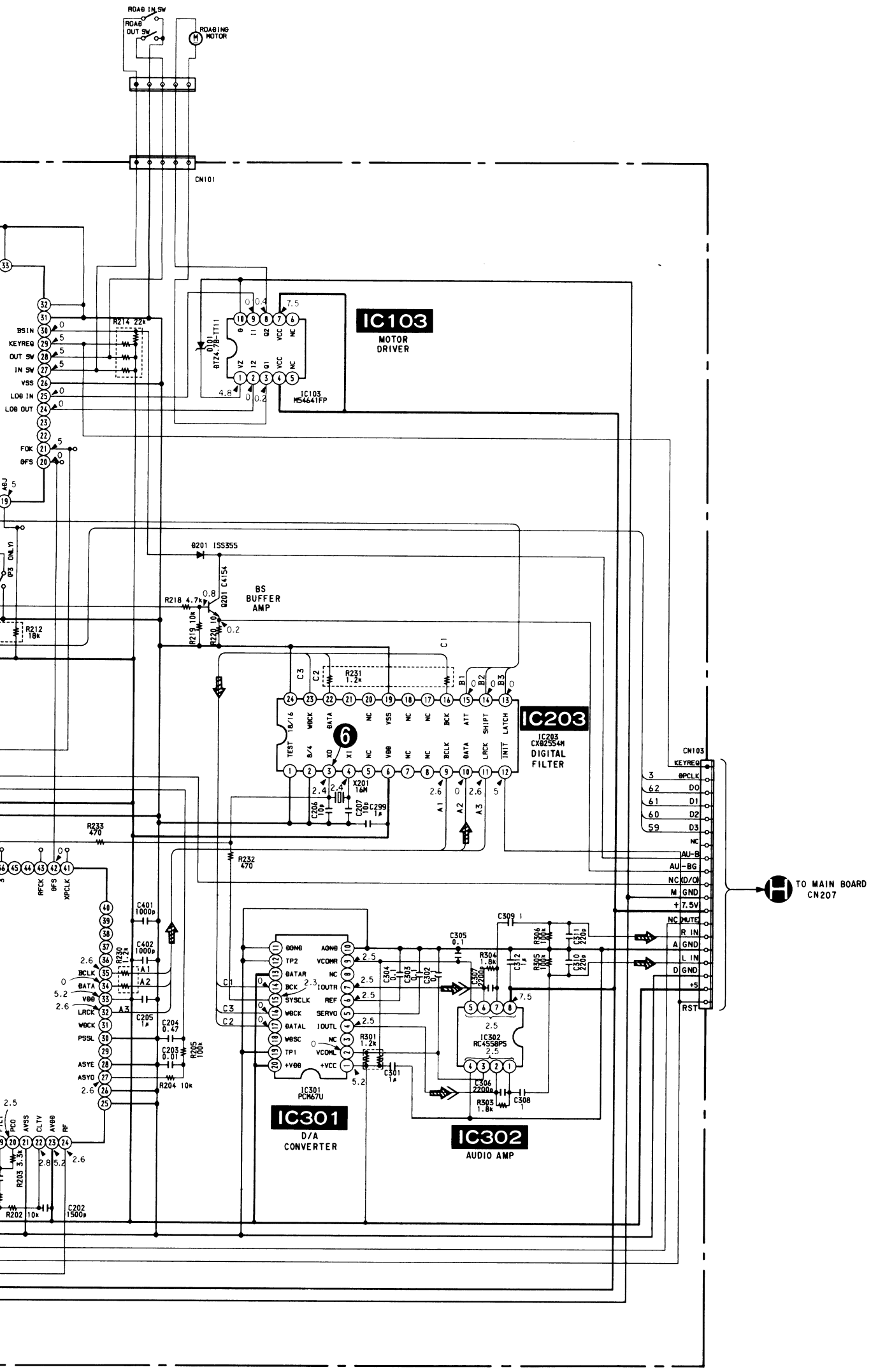
RV503
ECHO LEVEL
MIN MAX

+20DB

+6DB

**6-9. SCHEMATIC DIAGRAM** – BD SECTION – **•See page 67 for IC Pin Description.**






**• Wave forms**

❶ 5.3Vp-p, 120nsec
IC1001 ㊶

❷ 5.2Vp-p, 31µsec
IC1001 ㊹

❸ 5.2Vp-p, 0.26µsec
IC401 ㉗

❹ 3Vp-p, 140nsec
IC51 ㉔

❺ 5Vp-p, 4MHz
IC202 ⑧

❻ 3.3Vp-p, 16MHz
IC203 ③

❼ 1.2Vp-p
IC101 ㊵ play (RFO)

**Note on Schematic Diagram :**

- All capacitors are in µF unless otherwise noted. pF: µµF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ⚠ : fusible resistor.

**Note :The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.**

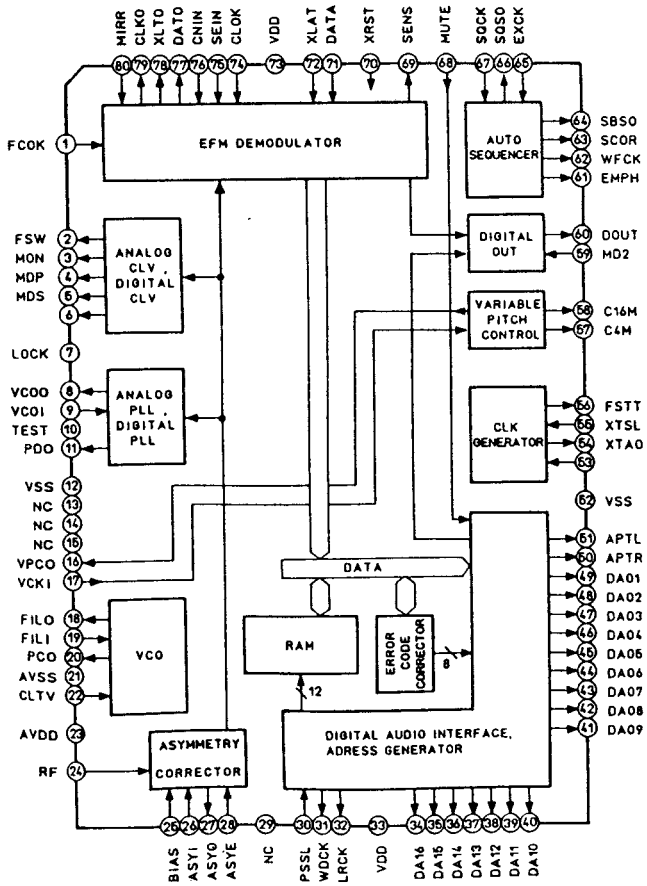
- ——— : B + Line.
- – – – : B − Line.
- ▭ : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : PB
- Voltages are taken with a VOM (input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ➡ : FM  ⇨ : PB  ⇨ : REC  ⇨ : AF  ⇨ :MIC  ⇨ : CD  ⇨ : CD AF
- EE : East European
- G : Germany
- IT : Italian

**Note on Mounting Diagram :**

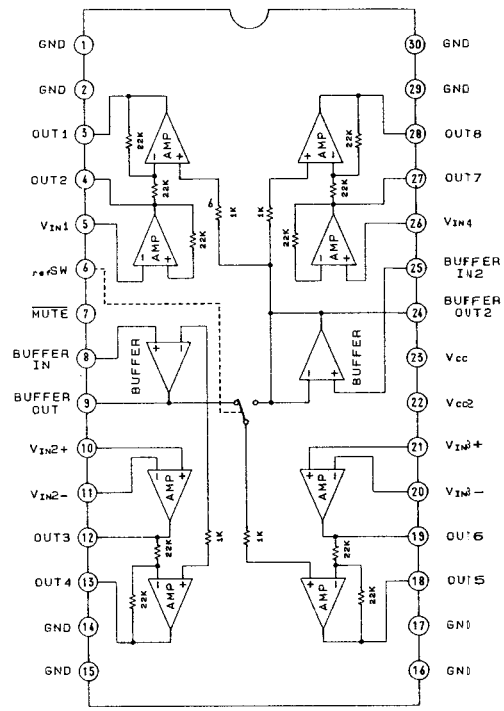
- ○—— : Parts extracted from the component side.
- ● : Through hole.
- ▒▒ : Pattern on the side which is seen.
- ▒▒ : Pattern of the rear side.

• IC Block Diagrams

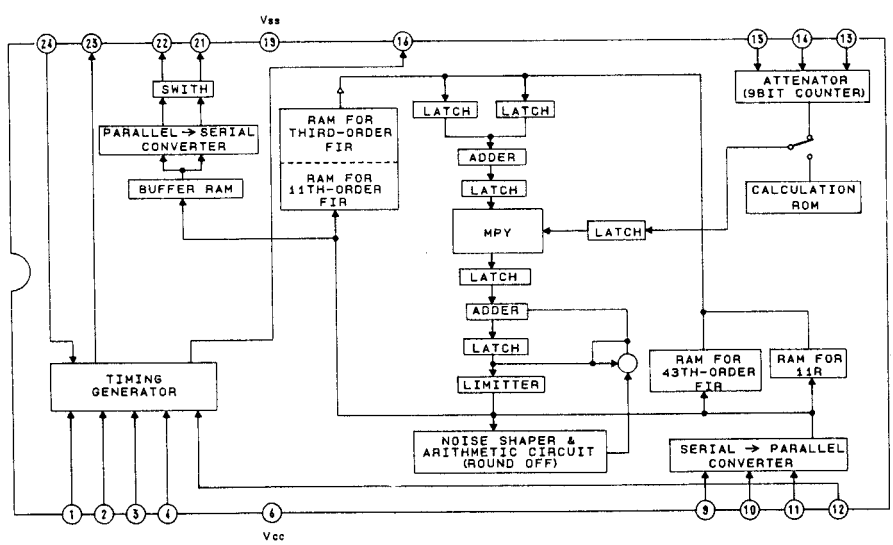
· IC201 CXD2500AQ



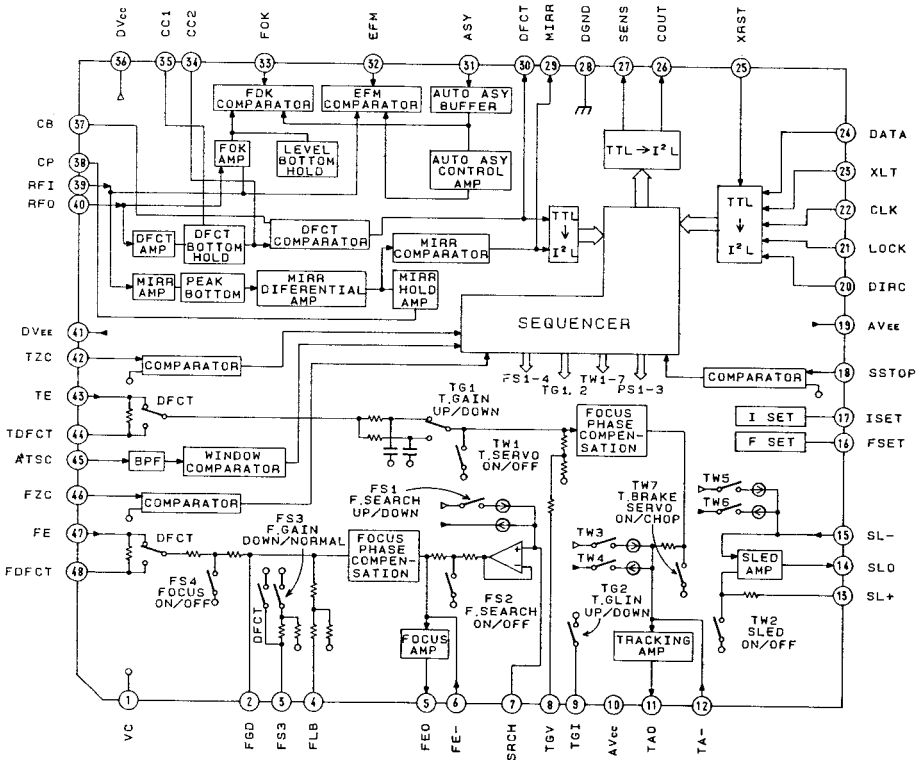

· IC102 LA6525M



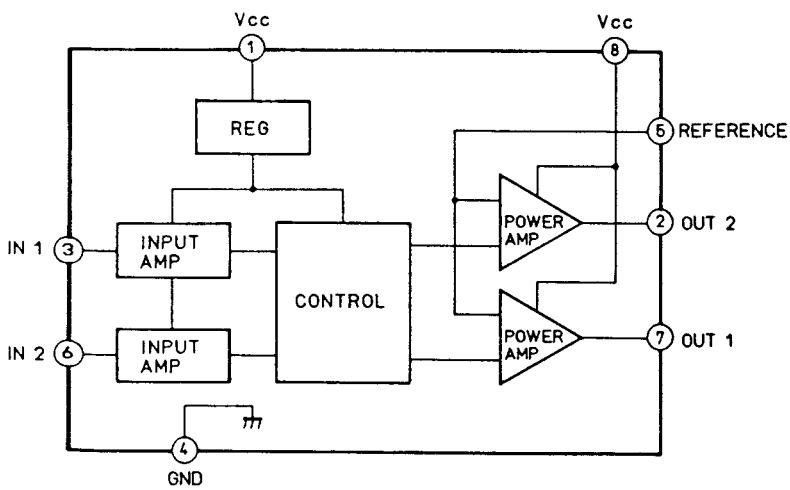

· IC203 CXD2554M



· IC101 CXA1372AQ




· IC103 M54641FP



## 6-10. IC PIN DESCRIPTION

### • IC401 Deck Controller (M50946-251FP)

| Pin No. | Pin Name | I/O | Symbol | Description |
|---|---|---|---|---|
| 1 | P62 | | G | GND |
| 2 | P61 | | G | GND |
| 3 | P60 | | G | GND |
| 4 | P47 | | G | GND |
| 5 | P46 | | G | GND |
| 6 | AN5 | I | B HALF | Deck B record prevention claw A, B detection input (Analog)<br>Volgate (V) / 1V / 1.9V / 2.8V / 3.9V / 5V<br>Harf / ON / ON / ON / ON / OFF<br>E. PROOF A / OFF / ON / OFF / ON / OFF<br>E. PROOF B / ON / ON / OFF / OFF / OFF |
| 7 | AN4 | I | KEY Y | KEY input<br>Volgate (V) / 0 / 0.3 / 0.7 / 1.2 / 1.7 / 2.3 / 2.8 / 3.4 / 4.0 / 4.5 / 5.0<br>KEY Y / B■ / B▮▮ / B▶ / B◀ / / A◀◀ / A▶▶ / / / RELAY / OFF<br>KEY X / A■ / A▶ / A◀ / A◀ / B◀◀ / B● / B / CD |
| 8 | AN3 | I | KEY X | |
| 9 | AN2 | I | AMS IN | AMS signal input |
| 10 | P41 | O | $\overline{\text{L MUTE}}$ | Line mute output |
| 11 | P40 | O | $\overline{\text{R MUTE}}$ | mute output |
| 12 | P37 | O | RELAY (B MD) | REC/PB change relay output |
| 13 | P36 | O | R/P | Dolby IC REC/PB select output |
| 14 | P35 | O | EQ70 | Playback EQ output for playing deck |
| 15 | P34 | O | SEL A/$\overline{\text{B}}$ | Dolby IC PB input Deck A/B select output |
| 16 | P33 | O | AMS A/$\overline{\text{B}}$ | AMS AMP input Deck A/B select output |
| 17 | P32 | I | AU BUS | AUDIO BUS input |
| 18 | P31 | O | BIAS | Bias oscillation output |
| 19 | P30 | O | AUB OUT | AUDIO BUS output |
| 20 | INT1 | I | A UBUS | AUDIO BUS normal input |
| 21 | NC | — | —— | —— |
| 22 | NC | — | —— | —— |
| 23 | NC | — | —— | —— |
| 24 | CNVSS | | CNVSS | GND |
| 25 | $\overline{\text{RESET}}$ | I | $\overline{\text{RESET}}$ | Microcomputer reset input |
| 26 | XIN | I | XIN | Clock input (4MHz) |
| 27 | Xo | O | Xo | Clock output (4MHz) |
| 28 | Φ | O | Φ | Not used (open) |
| 29, 65 | Vss | | Vss | GND |
| 30 | P57 | I | PW IN | POWER OFF detection input |
| 31 | P56 | I | A STOP | Deck A STOP switch input |
| 32 | P55 | I | $\overline{\text{A HALF}}$ | Deck A Half switch input |
| 33 | P54 | I | A SHUT | Deck A Reel table signal input |
| 34 | P53 | I | A70 U | Deck A TYPE II switch input |
| 35 | P52 | I | B STOP | Deck B STOP switch input |
| 36 | P51 | I | B SHUT | Deck B Reel table signal input |
| 37 | P50 | I | B70 U | Deck B TYPE II switch input |
| 38 | NC | — | —— | —— |
| 39 | P17 | O | ARM 3 | Deck A Reel Motor control out |
| 40 | P16 | O | ARM 2 | Deck A Reel Motor control out |

| Pin No. | Pin Name | I/O | Symbol | Description |
|---|---|---|---|---|
| 41 | P15 | O | ARM 1 | Deck A Reel Motor control out |
| 42 | P14 | O | BRM 3 | Deck B Reel Motor control out |
| 43 | P13 | O | BRM 2 | Deck B Reel Motor control out |
| 44 | P12 | O | BRM 1 | Deck B Reel Motor control out |
| 45 | P11 | O | H/L | Capstan motor speed select |
| 46 | P10 | O | A CM | A Capstan motor ON/OFF |
| 47 | P07 | O | B CM | B Capstan motor ON/OFF |
| 48 | P06 | I | BS/ASCH | Deck A Reel table/BS signal input |
| 49 | P05 | I | A•P/BSCH | Deck B Reel table/A•P signal input |
| 50 | P04 | O | A ◁ | Deck A RVS LED output |
| 51 | P03 | O | A ▷ | Deck A FWD LED output |
| 52 | P02 | O | A PLAY | Deck B RVS/FWD LED control output |
| 53 | P01 | O | DUB H | High Speed Dubbing LED output |
| 54 | P00 | O | DUB N | Normal Speed Dubbing LED output |
| 55 | NC | — | —— | —— |
| 56 | P27 | O | CD SYNC | Auto CD Synchro LED output |
| 57 | P26 | O | B ◁ | Deck B RVS LED output |
| 58 | P25 | O | B ▷ | Deck B FWD LED output |
| 59 | O24 | O | B PLAY | Deck B RVS/FWD LED control output |
| 60 | P23 | O | B PAUSE | Deck B PAUSE LED output |
| 61 | P22 | O | B ● | Auto CD Synchro LED output |
| 62 | P21 | O | PASS | PASS amplifier switch output |
| 63 | P20 | I | TEST | Electrical adjustment test mode setting |
| 64 | NC | — | —— | —— |
| 66 | NC | — | —— | —— |
| 67 | Vcc | | Vcc | POWER 5 ± 0.5V |
| 68 | AVss | | AVss | Analog system GND |
| 69 | VREF | I | VREF | Analog system reference voltage input |
| 70 | D•A | | D•A | GND |
| 71 | PWM | | —— | GND |
| 72 | P63 | | —— | GND |

**[TEST MODE]**

When making pin ⑥③ low (connect TP1 to ground with jumper wire), following function operates.

1. Sourec monitor
   Release the line mute while recording.

• **IC202 CD Controller ( μPD75116GF)**

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | Not Used | O | OPEN |
| 2 | Not Used | O | OPEN |
| 3 | DPCLK | O | Display data transmission clock output |
| 4 | LATCH | O | Serial data latch pulse output for digital filter CXD2554M |
| 5 | SHIPT | O | Serial clock output for digital filter CXD2554M |
| 6 | AFT | O | Serial clock output for digital filter CXD2554M |
| 7 | RESET | I | System reset input terminal (LOW ACTIVE) |
| 8 | X2 | I | System clock input 4.0MHZ |
| 9 | X1 | I | System clock input 4.0MHz |
| 10 | DFCTSW | O | For focus in till spindle kick is ON except then is OFF. |
| 11 | AMUTE | O | Muting ON/OFF output |
| 12 | BSOUT | O | Audio bus output |
| 13 | AFADJ | I | Teast mode input, and on time POWER "L" is test move ment of every kind |
| 14 | LDON | O | Laser diode ON/OFF output |
| 15 | XKT | O | Serial data latch pulse output for CXD2500AQ |
| 16 | CLK | O | Serial data output for CXD2500AQ |
| 17 | DATA | O | Serial data output for CXD2500AQ |
| 18 | Not Used | I | GND |
| 19 | ADJ | I | Test mode input, "L" is GFS no check. |
| 20 | GFS | I | GFS OK/NO Good input |
| 21 | FOK | I | Focus OK/NO Good input |
| 22 | Not Used | O | OPEN |
| 23 | Not Used | O | OPEN |
| 24 | LODOUT | O | Disc tray loading-out output |
| 25 | LODIN | O | Disc tray loading-out output |
| 26 | VSS | I | GND |
| 27 | INSW | I | Disk tray clamp-end input |
| 28 | OUTSW | I | Disk tray open-end input |
| 29 | (TIMER) | I | Timer start input |
| 30 | BSIN | I | Audio bus input |
| 31 | Not Used | I | GND |
| 32 | Not Used | I | GND |
| 33 | Not Used | I | GND |
| 34 | Not Used | I | GND |
| 35 | Not Used | I | GND |
| 36 | Not Used | I | GND |
| 37 | SENS | I | SENS input, and the state input of every kind from CXD2500Q |
| 38 | TIMER | I | (NOT-PLAY) |
| 39 | D/F 16BT | I | (NOT-PLAY) |
| 40 | Not Used | I | GND |
| 41 | SUBQ | I | Q data serial input from CXD2500AQ |
| 42 | Not Used | O | OPEN |
| 43 | SQCLK | O | Sub-code Q data read-in clock output for CXD2500AQ |
| 44 | SCOR | I | Sub-code synchro S0 and S1 detect input |
| 45 | Not Used | O | OPEN |
| 46 | | O | |
| 47 | Not Used | O | OPEN |
| 48 | Not Used | O | OPEN |
| 49 | Not Used | I | OPEN |
| 50 | Not Used | I | OPEN |

| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 51 | Not Used | I | OPEN |
| 52 | Not Used | I | OPEN |
| 53 | Not Used | O | OPEN |
| 54 | Not Used | O | OPEN |
| 55 | Not Used | O | OPEN |
| 56 | Not Used | O | OPEN |
| 57 | Not Used | I | +5V |
| 58 | VDD | I | +5V |
| 59 | DPDAT3 | O | OPEN |
| 60 | DPDAT2 | O | OPEN |
| 61 | DPDAT1 | O | OPEN |
| 62 | DPDAT0 | O | OPEN |

# SECTION 7
# EXPLODED VIEWS

**NOTE:**

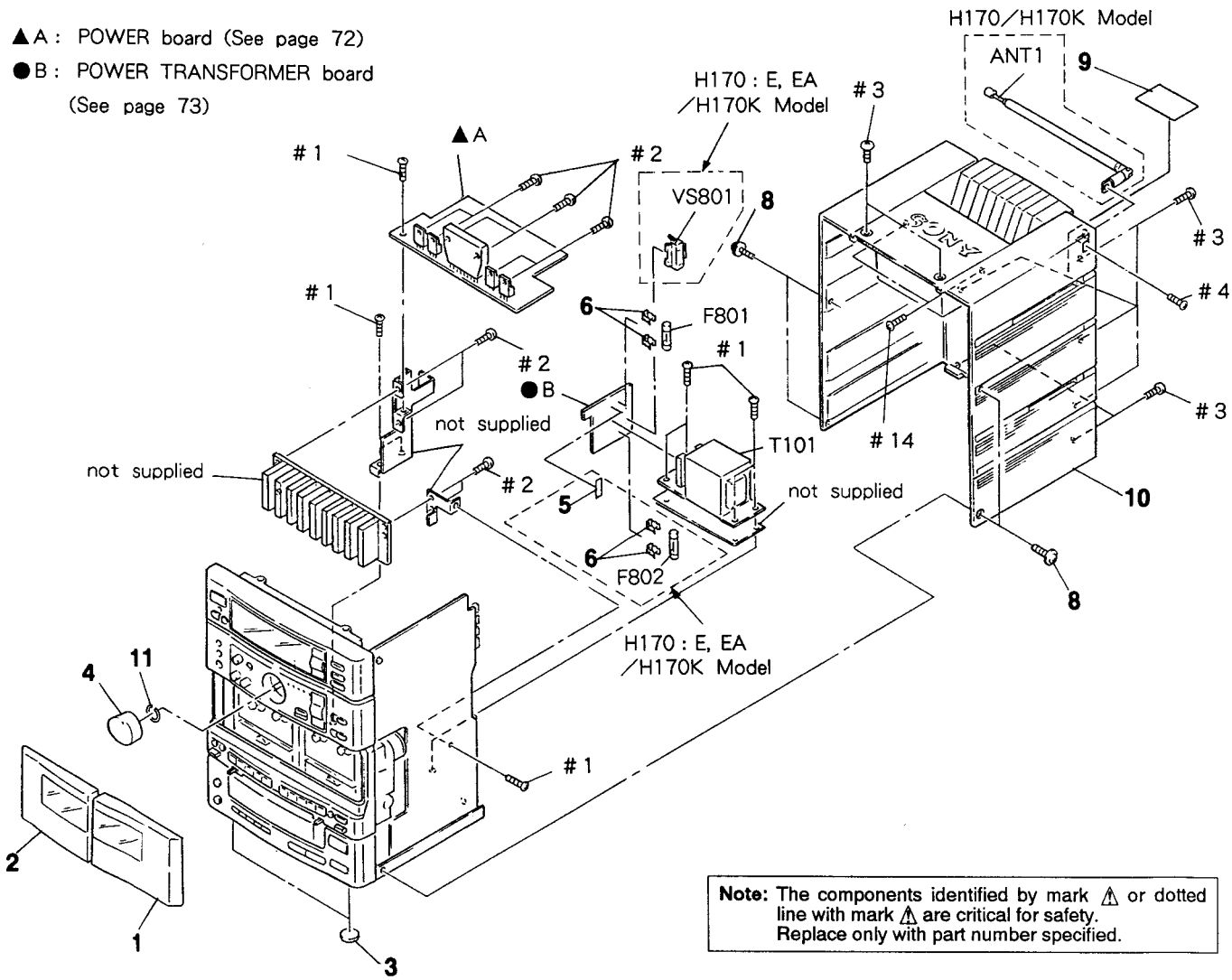
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE)...(RED)
  ↑ ↑
  Parts color Cabinet's color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- EA : SaudiArabia
- AUS : Australian
- EE : East European
- G : Germany
- IT : Italian

## 7-1. CASE, POWER SECTION

▲A : POWER board (See page 72)
●B : POWER TRANSFORMER board (See page 73)

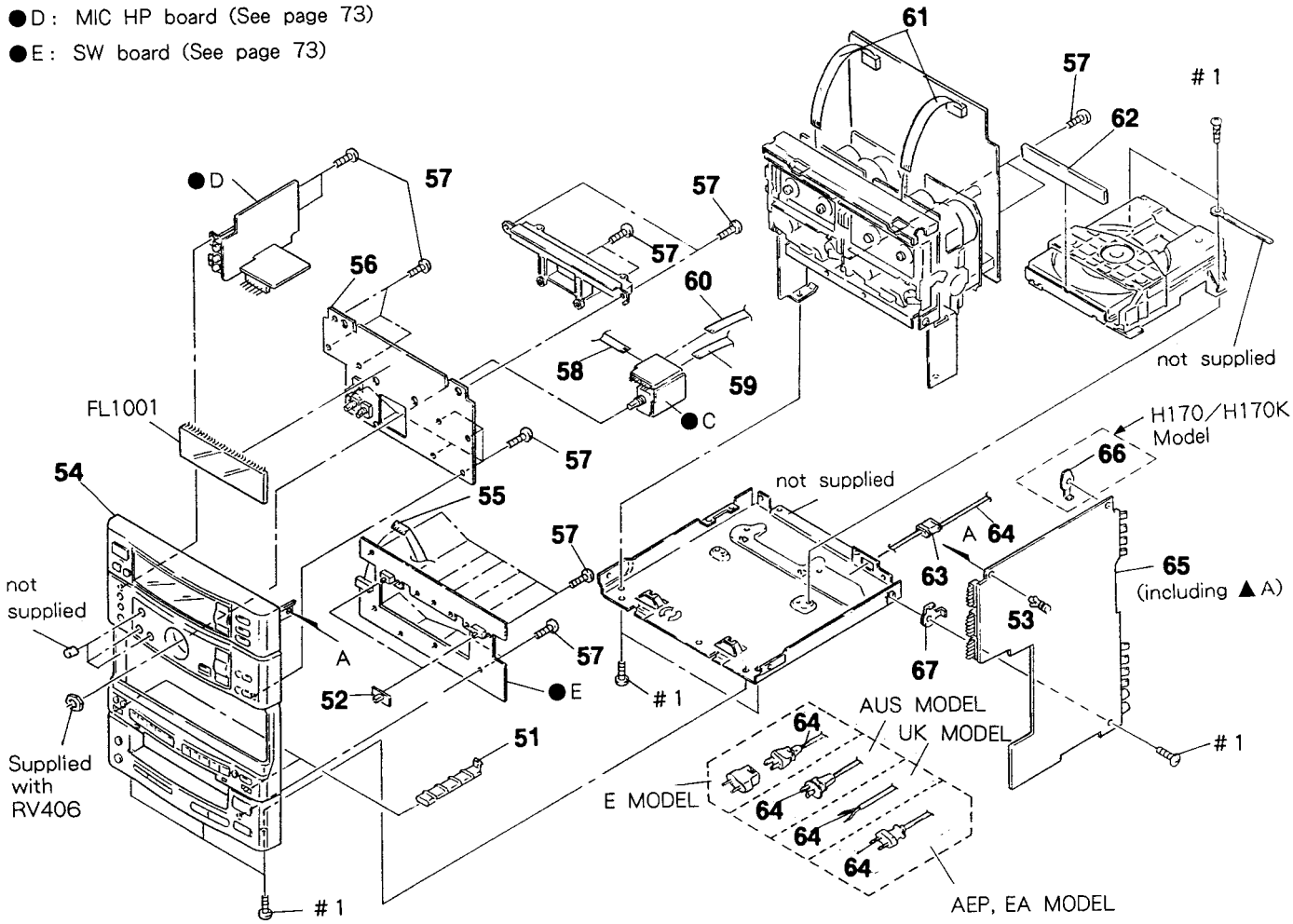



**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| 1 | X-4942-644-1 | LID (B) ASSY, CASSETTE | |
| 2 | X-4942-643-1 | LID (A) ASSY, CASSETTE | |
| 3 | 3-319-288-01 | FOOT | |
| 4 | X-4942-657-1 | KNOB (VOLUME) ASSY | |
| 5 | 3-701-947-14 | LABEL (T2A), FUSE (H170:E, EA, H170K) | |
| * 6 | 1-533-213-31 | HOLDER, FUSE | |
| 8 | 3-704-366-01 | SCREW (CASE) (M3X8) | |
| * 9 | 4-941-548-01 | LABEL, CLASS 1 (H700:UK) | |
| 10 | 4-951-989-01 | CASE (H700) | |
| 10 | X-4942-649-1 | CASE ASSY (H170:AEP, AUS, EE) | |
| 10 | X-4942-650-1 | CASE ASSY (H170:E, EA, H170K) | |
| 11 | 3-356-957-01 | SPRING | |
| ⚠VS801 | 1-572-675-11 | SWITCH, POWER VOLTAGE CHANGE (H170:E, EA, H170) | |
| ANT1 | 1-501-321-51 | ANTENNA, TELESCOPIC (H170, H170K) | |
| ⚠F801 | 1-532-078-00 | FUSE (1A) | |
| ⚠F801 | 1-532-203-00 | FUSE (2A) (H170:E, EA, H170K) | |
| ⚠F802 | 1-532-078-00 | FUSE (1A) (H170:E, EA, H170K) | |
| ⚠T101 | 1-450-769-11 | TRANSFORMER, POWER (H170:AEP, G, IT, EE, H700) | |
| ⚠T101 | 1-450-770-11 | TRANSFORMER, POWER (H170:E, EA, AUS, H170K) | |

## 7-2. FRONT PANEL, MAIN BOARD SECTION

● C : VOLUME board (See page 73)
● D : MIC HP board (See page 73)
● E : SW board (See page 73)

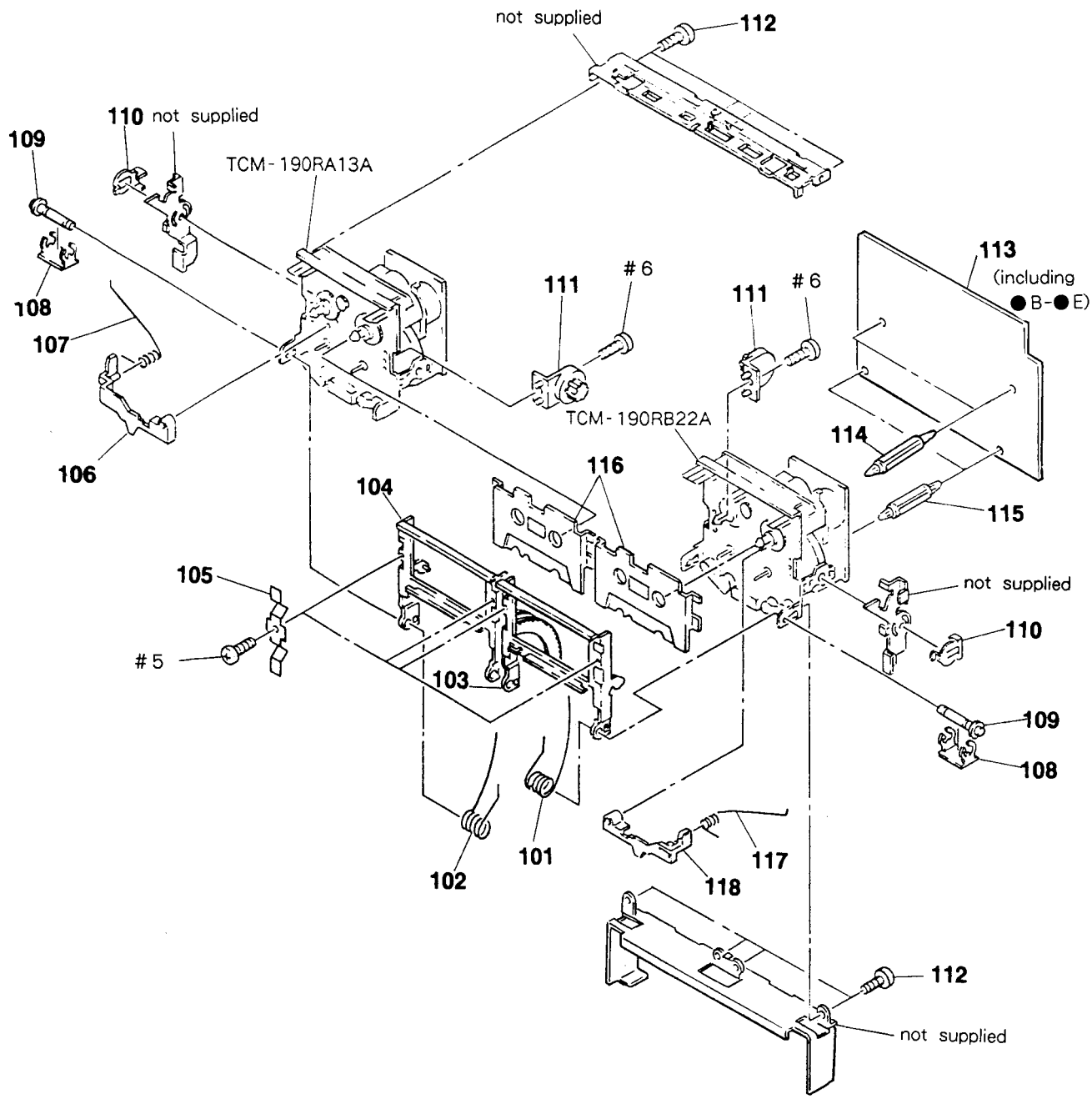



| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| 51 | 4-951-982-01 | BUTTON (TC-E) | |
| 52 | 4-951-985-01 | KNOB (SLIDE) | |
| 53 | 4-812-134-00 | RIVET NYLON, 3.5 | |
| 54 | X-4942-645-1 | PANEL ASSY, FRONT (H170K) | |
| 54 | X-4942-646-1 | PANEL ASSY, FRONT (H170:E, EA, AUS) | |
| 54 | X-4942-647-1 | PANEL ASSY, FRONT (H170:AEP, EE) | |
| 54 | X-4942-648-1 | PANEL ASSY, FRONT (H700) | |
| 55 | 1-690-854-21 | WIRE (FLAT TYPE) (16 CORE) (EXCEPT H700:UK) | |
| 55 | 1-690-854-31 | WIRE (FLAT TYPE) (16 CORE) (H700:UK) | |
| * 56 | A-4347-469-A | DISPLAY BOARD, COMPLETE (H170:E, EA) | |
| * 56 | A-4347-475-A | DISPLAY BOARD, COMPLETE (H170:AEP, H700) | |
| * 56 | A-4347-479-A | DISPLAY BOARD, COMPLETE (H170:Germany) | |
| * 56 | A-4347-480-A | DISPLAY BOARD, COMPLETE (H170:Italian) | |
| * 56 | A-4347-483-A | DISPLAY BOARD, COMPLETE (H170K) | |
| * 56 | A-4347-490-A | DISPLAY BOARD, COMPLETE (H170:EE) | |
| * 56 | A-4347-544-A | DISPLAY BOARD, COMPLETE (H170:AUS) | |
| 57 | 4-951-620-01 | SCREW, +BV (2.6X8) +BVTP | |
| 58 | 1-690-996-11 | WIRE (FLAT TYPE) (4 CORE) | |
| * 59 | 1-590-240-11 | WIRE, FLAT TYPE (9 CORE) | |
| 60 | 1-690-997-11 | CABLE, FLAT TYPE (11 CORE) | |
| 61 | 1-690-588-31 | WIRE, FLAT TYPE (9 CORE) | |

| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| 62 | 4-951-984-01 | PANEL (LOADING) | |
| * 63 | 3-703-244-00 | BUSHING (2104), CORD (H170:AEP, EE, H700) | |
| * 63 | 3-703-571-11 | BUSHING (S) (4516), CORD (H170:E, EA, AUS, H170K) | |
| ⚠64 | 1-574-804-11 | CORD, POWER (H700:UK) | |
| ⚠64 | 1-574-805-11 | CORD, POWER (H170:AEP, EA/H170K:EA/H700:AEP) | |
| ⚠64 | 1-574-902-11 | CORD, POWER (H170:E/H170K:E) | |
| ⚠64 | 1-590-042-11 | CORD, POWER (WITH CORE) (H170:Germany, Italian) | |
| ⚠64 | 1-690-056-11 | CORD, POWER (H170:AUS) | |
| ⚠64 | 1-696-169-11 | CORD, POWER (H170:EE) | |
| * 65 | A-4343-548-A | MAIN BOARD, COMPLETE (H170:E, EA) | |
| * 65 | A-4343-553-A | MAIN BOARD, COMPLETE (H170K) | |
| * 65 | A-4343-554-A | MAIN BOARD, COMPLETE (H170:AEP) | |
| * 65 | A-4343-555-A | MAIN BOARD, COMPLETE (H170:Germany, Italian) | |
| * 65 | A-4343-556-A | MAIN BOARD, COMPLETE (H700:EE) | |
| * 65 | A-4343-558-A | MAIN BOARD, COMPLETE (H700) | |
| * 65 | A-4343-575-A | MAIN BOARD, COMPLETE (H170:AUS) | |
| 66 | 4-925-530-01 | PLATE, GROUND (H170, H170K) | |
| 67 | 4-942-204-01 | PLATE, GROUND | |
| FL1001 | 1-519-718-11 | INDICATOR TUBE, FLUORESCENT | |

**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

## 7-3. MD CHASSIS SECTION

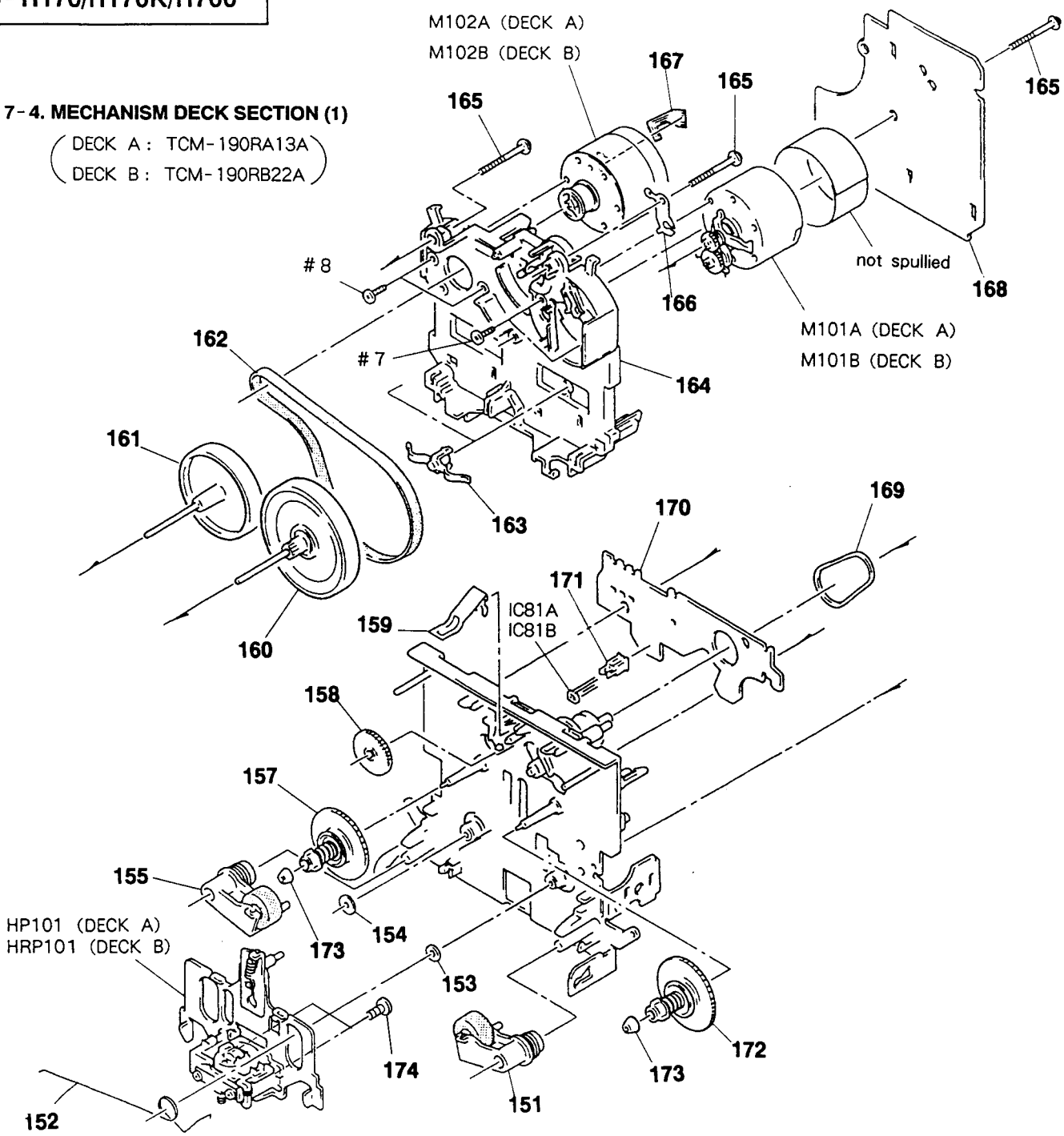



| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| 101 | 3-354-960-01 | SPRING (LOADING R), TORSION | |
| 102 | 3-354-959-01 | SPRING (LOADING L), TORSION | |
| 103 | X-3362-856-1 | HOLDER (R) ASSY, CASSETTE | |
| 104 | X-3362-857-1 | HOLDER (L) ASSY, CASSETTE | |
| 105 | 3-340-137-01 | SPRING, CASSETTE RETAINER | |
| 106 | 3-354-955-01 | LEVER (EJ SAFTY LEVER L) | |
| 107 | 3-354-961-01 | SPRING (EJ SAFTY SPRING L) | |
| 108 | 3-367-720-01 | RING (W), RETAINING | |
| 109 | 3-367-721-01 | SHAFT (FULCRUM SHAFT) | |
| 110 | 3-354-957-01 | JOINT (LOCK LEVER) | |

| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| 111 | 3-354-963-01 | DAMPER | |
| 112 | 4-951-620-01 | SCREW, +BV (2.6X8) TAPPING | |
| * 113 | A-4343-549-A | SUB BOARD, COMPLETE (H170:E, EA) | |
| * 113 | A-4343-550-A | SUB BOARD, COMPLETE (H170:AEP, EE, H700) | |
| * 113 | A-4343-551-A | SUB BOARD, COMPLETE (H170:, IT) | |
| * 113 | A-4343-552-A | SUB BOARD, COMPLETE (H170K) | |
| * 113 | A-4343-573-A | SUB BOARD, COMPLETE (H170:AUS) | |
| * 114 | 3-682-419-31 | HOLDER, P.C.B | |
| * 115 | 3-682-419-21 | HOLDER, P.C.B | |
| 116 | 3-367-711-01 | RETAINER, CASSETTE | |
| 117 | 3-354-962-01 | SPRING (EJ SAFTY SPRING R) | |
| 118 | 3-354-956-01 | LEVER (EJ SAFTY LEVER R) | |

## 7-4. MECHANISM DECK SECTION (1)

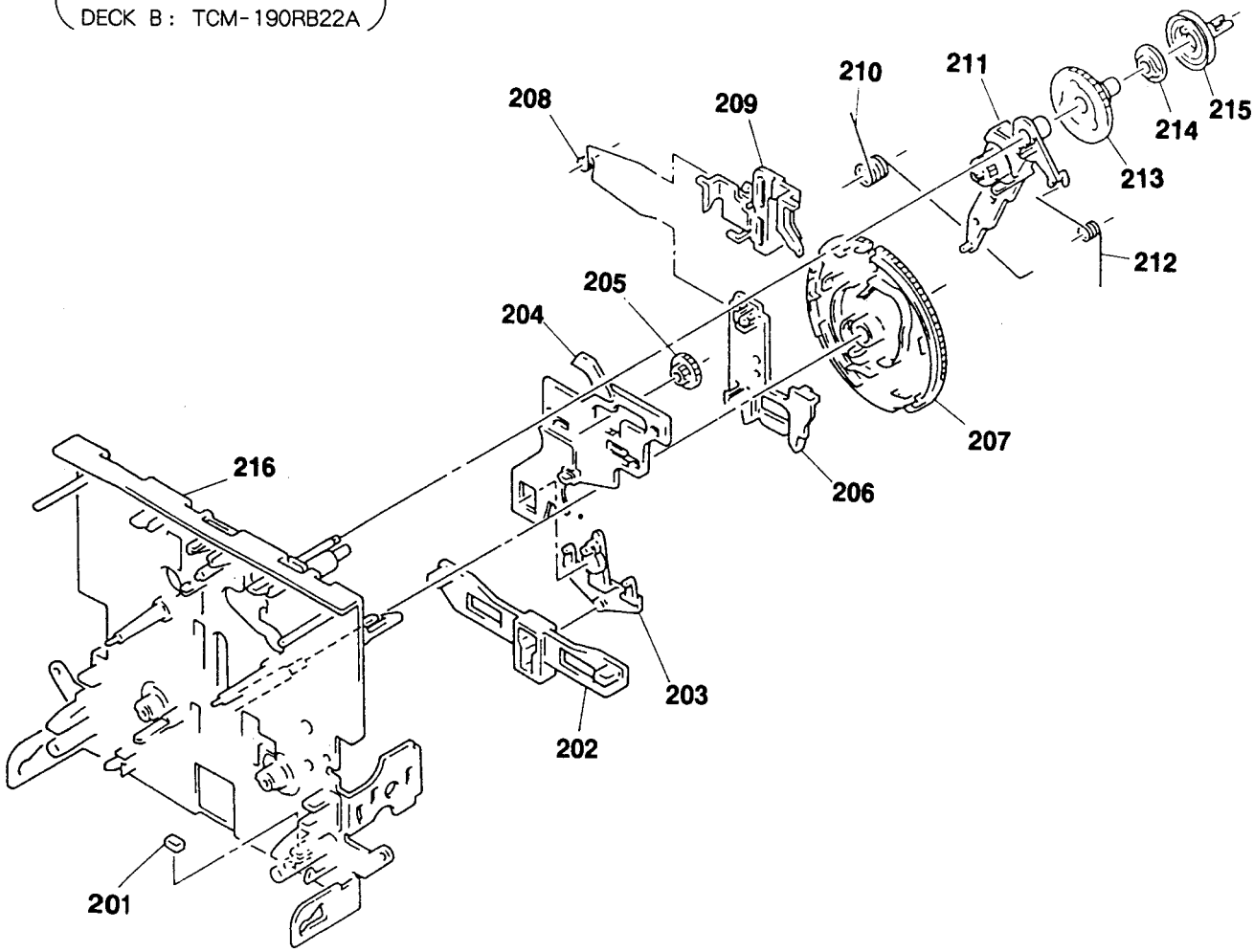
(DECK A : TCM-190RA13A
DECK B : TCM-190RB22A)




| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| 151 | X-3359-408-1 | LEVER (PINCH LEVER FWD) ASSY | |
| 152 | 3-359-455-01 | SPRING, TORSION | |
| 153 | 3-356-713-01 | WASHER | |
| 154 | 3-356-714-01 | WASHER | |
| 155 | X-3359-409-1 | LEVER (PINCH LEVER REV) ASSY | |
| 157 | X-3362-078-1 | TABLE ASSY (B), REEL | |
| 158 | 3-359-424-01 | GEAR (REV GEAR) | |
| 159 | 3-359-430-01 | SPRING(CASSETTE RETAINER),LEAF | |
| 160 | X-3359-406-1 | FLYWHEEL (FWD) ASSY | |
| 161 | X-3359-410-1 | FLYWHEEL (REV) ASSY | |
| 162 | 3-359-417-01 | BELT (FLAT), CAPSTAN | |
| 163 | 3-575-321-00 | RETAINER, THRUST, CAPSTAN | |
| * 164 | 3-359-436-01 | BASE (THRUST RETAINER),FITTING | |
| 165 | 3-359-414-01 | SCREW (+PTPWH 2X23) | |
| 166 | 3-359-450-01 | PLATE, GROUND | |
| 167 | 1-638-983-11 | PC BOARD, MOTOR FLEXIBLE | |
| * 168 | A-2006-399-A | MD-A BOARD (RA13A), AUDIO | |
| * 168 | A-2006-400-A | MD-B BOARD (RB22A), AUDIO | |
| 169 | 3-359-466-01 | BELT (FR), SQUARE | |
| * 170 | 1-634-841-14 | LEAF SW (A)BOARD (RA13A) (DECK A) | |
| * 170 | 1-634-841-14 | LEAF SW (B)BOARD (RB22A) (DECK B) | |
| 171 | 3-343-419-01 | HOLDER (S SENSOR A) | |
| 172 | X-3359-404-1 | TABLE ASSY, REEL | |
| 173 | 3-362-308-01 | CAP (REEL) | |
| 174 | 3-356-716-01 | SCREW (2X4) (B TIGHT), +P | |
| HP101 | A-2003-868-A | BASE ASSY, HEAD | |
| HRP101 | A-2003-838-A | BASE ASSY, HEAD | |
| M101A | X-3363-501-1 | MOTOR ASSY,REEL (DECK A) | |
| M101B | X-3363-501-1 | MOTOR ASSY,REEL (DECK B) | |
| M102A | X-3359-417-1 | MOTOR (CAPSTAN MOTOR) ASSY (DECK A) | |
| M102B | X-3359-417-1 | MOTOR (CAPSTAN MOTOR) ASSY (DECK B) | |
| IC81A | 8-719-710-03 | IC NJL5165K-B | |
| IC81B | 8-719-710-03 | IC NJL5165K-B | |

## 7-5. MECHANISM DECK SECTION (2)

(DECK A : TCM-190RA13A
DECK B : TCM-190RB22A)

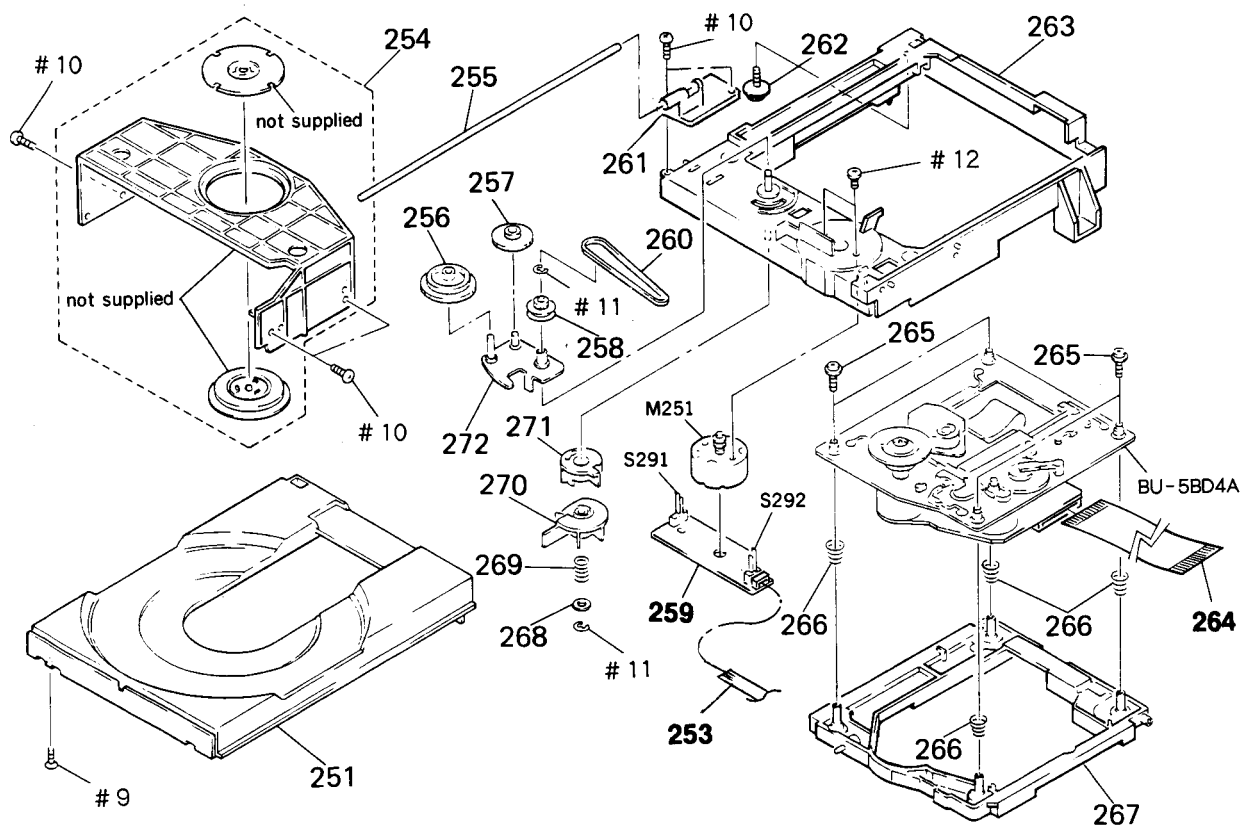



| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| 201 | 3-359-469-01 | SPACER | |
| * 202 | 3-359-425-01 | SLIDER (REVERSE SLIDER) | |
| 203 | 3-359-426-01 | LEVER (REVERSE LEVER) | |
| * 204 | 3-359-415-01 | SLIDER (TRIGGER SLIDER) | |
| 205 | 3-359-448-01 | GEAR (TRIGGER) | |
| * 206 | 3-359-427-01 | SLIDER (LEVERSE SLIDER) | |
| 207 | 3-359-420-01 | GEAR (CAM GEAR) | |
| 208 | 3-359-454-01 | SPRING, TORSION | |
| 209 | 3-359-429-01 | SLIDER (BRAKE PLATE) | |

| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| 210 | 3-359-456-01 | SPRING(TRIGGER SPRING),TORSION | |
| 211 | X-3359-405-1 | LEVER (FR ARM) ASSY | |
| 212 | 3-359-453-01 | SPRING (FR ARM), TORSION | |
| 213 | 3-359-419-01 | GEAR (FR GEAR) | |
| 214 | 3-359-421-01 | CLUTCH (REEL DISK) | |
| 215 | 3-359-418-01 | PULLEY (FR PULLEY) | |
| 216 | X-3363-790-1 | CHASSIS ASSY, MECHANICAL | |

## 7-6. CD SECTION (1)

(CDM13B-5BD4A)

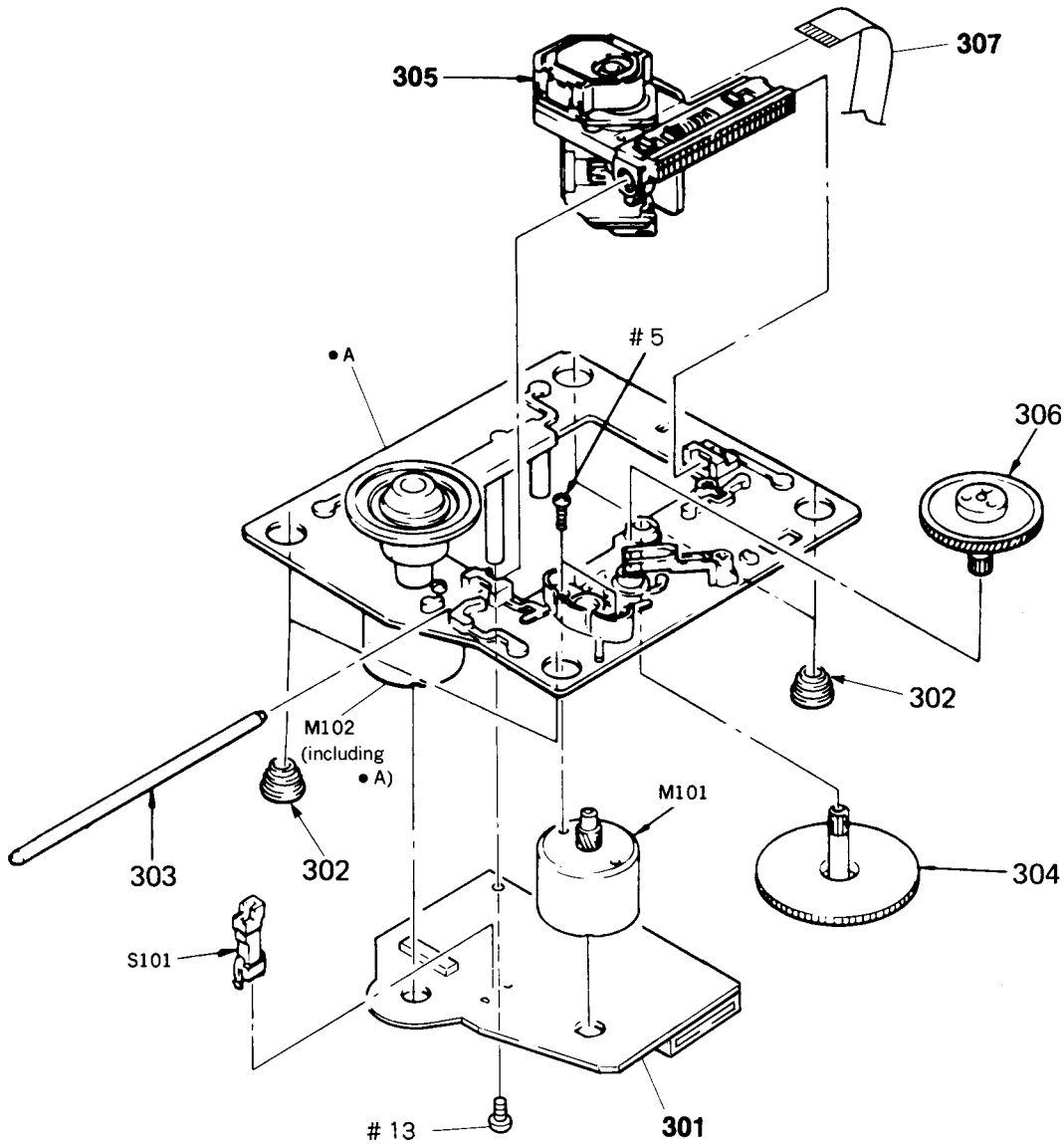



| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| 251 | 4-944-012-01 | TABLE, DISC | |
| 253 | 1-590-530-11 | WIRE, FLAT TYPE | |
| 254 | A-4604-752-A | HOLDER (MG) ASSY | |
| 255 | 4-929-764-01 | SHAFT (TABLE GUIDE) | |
| 256 | 4-927-620-01 | GEAR (P) | |
| 257 | 4-927-628-01 | GEAR (C) | |
| 258 | 4-929-724-01 | PULLEY (B) | |
| * 259 | 1-638-308-11 | LOADING BOARD | |
| 260 | 4-927-649-01 | BELT | |
| 261 | 4-944-006-01 | BEARING | |
| * 262 | 4-917-583-21 | BRACKET, YOKE | |
| 263 | X-4941-462-1 | CHASSIS (MD) ASSY | |

| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| 264 | 1-690-853-11 | WIRE (FLAT TYPE) (19 CORE) | |
| 265 | 4-933-134-01 | SCREW (+PTPWH M2.6X6) | |
| 266 | 4-917-541-01 | SPRING (B) | |
| 267 | 4-929-747-01 | HOLDER (BU) | |
| 268 | 4-927-654-01 | WASHER (LIMITER) | |
| 269 | 3-659-338-00 | SPRING, COMPRESSION | |
| 270 | 4-929-729-01 | CAM (B) | |
| 271 | 4-929-727-01 | CAM (A) | |
| 272 | X-4929-703-1 | ARM ASSY, SWING | |
| M251 | A-4608-362-A | MOTOR (L) ASSY | |
| S291 | 1-571-924-11 | SWITCH, LEAF (LOAD OUT) | |
| S292 | 1-571-924-11 | SWITCH, LEAF (LOAD IN) | |

## 7-7. CD SECTION (2)

(BU-5BD4A)




**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| * 301 | A-4617-936-A | BD BOARD, COMPLETE | |
| 302 | 4-933-126-01 | INSULATOR (A) | |
| 303 | 4-917-565-01 | SHAFT, SLED | |
| 304 | 4-917-564-01 | GEAR (P), FLATNESS | |
| ⚠305 | 8-848-144-11 | DEVICE, OPTICAL KSS-240A | |
| 306 | 4-917-567-01 | GEAR (M) | |
| 307 | 1-575-001-11 | WIRE, FLAT TYPE (12 CORE) | |
| M101 | X-4917-504-1 | MOTOR ASSY (SLED) | |
| M102 | X-4917-523-3 | MOTOR ASSY (SPINDLE) | |
| S101 | 1-572-085-11 | SWITCH, LEAF (LIMIT IN) | |

BD

# SECTION 8
# ELECTRICAL PARTS LIST

**NOTE:**

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- −XX, −X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS :
  uF : μF
- RESISTORS
  All resistors are in ohms.
  METAL : metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- COILS
  uH : μH
- SEMICONDUCTORS
  In each case, u : μ, for example :
  uA... : μA... , uPA... , μPA... ,
  uPB... , μPB... ,uPC... , μPC... ,
  uPD..., μPD...

- EA : SaudiArabia
- AUS : Australian
- EE : East European
- G : Germany
- IT : Italian

| Ref. No. | Part No. | Description | | | Remarks |
|---|---|---|---|---|---|
| * | A-4617-936-A | BD BOARD | | | |
| | | ******** | | | |
| | | < CAPACITOR > | | | |
| C101 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C102 | 1-163-989-11 | CERAMIC CHIP | 0.033uF 10% | 25V | |
| C103 | 1-135-155-21 | TANTALUM CHIP | 4.7uF 10% | 16V | |
| C104 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C105 | 1-126-607-11 | ELECT CHIP | 47uF 20% | 4V | |
| C106 | 1-126-607-11 | ELECT CHIP | 47uF 20% | 4V | |
| C107 | 1-126-607-11 | ELECT CHIP | 47uF 20% | 4V | |
| C108 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C109 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C110 | 1-163-989-11 | CERAMIC CHIP | 0.033uF 10% | 25V | |
| C111 | 1-164-346-11 | CERAMIC CHIP | 1uF | 16V | |
| C112 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | 50V | |
| C113 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | 50V | |
| C114 | 1-164-695-11 | CERAMIC CHIP | 0.0022uF 5% | 50V | |
| C115 | 1-164-695-11 | CERAMIC CHIP | 0.0022uF 5% | 50V | |
| C117 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C118 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C119 | 1-164-695-11 | CERAMIC CHIP | 0.0022uF 5% | 50V | |
| C120 | 1-163-989-11 | CERAMIC CHIP | 0.033uF 10% | 25V | |
| C151 | 1-163-019-00 | CERAMIC CHIP | 0.0068uF 10% | 50V | |
| C152 | 1-164-346-11 | CERAMIC CHIP | 1uF | 16V | |
| C153 | 1-163-135-00 | CERAMIC CHIP | 560PF 5% | 50V | |
| C154 | 1-164-695-11 | CERAMIC CHIP | 0.0022uF 5% | 50V | |
| C155 | 1-163-023-00 | CERAMIC CHIP | 0.015uF 5% | 50V | |
| C171 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C172 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C173 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C174 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C201 | 1-163-809-11 | CERAMIC CHIP | 0.047uF 10% | 25V | |
| C202 | 1-163-145-00 | CERAMIC CHIP | 0.0015uF 5% | 50V | |
| C203 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | 50V | |
| C204 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | 25V | |
| C205 | 1-164-346-11 | CERAMIC CHIP | 1uF | 16V | |
| C206 | 1-163-093-00 | CERAMIC CHIP | 10PF 5% | 50V | |
| C207 | 1-163-093-00 | CERAMIC CHIP | 10PF 5% | 50V | |
| C208 | 1-164-346-11 | CERAMIC CHIP | 1uF | 16V | |
| C209 | 1-164-346-11 | CERAMIC CHIP | 1uF | 16V | |
| C210 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C299 | 1-164-346-11 | CERAMIC CHIP | 1uF | 16V | |
| C301 | 1-164-346-11 | CERAMIC CHIP | 1uF | 16V | |
| C302 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C303 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C304 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C305 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C306 | 1-163-145-00 | CERAMIC CHIP | 0.0015uF 5% | 50V | |
| C307 | 1-163-145-00 | CERAMIC CHIP | 0.0015uF 5% | 50V | |
| C308 | 1-164-346-11 | CERAMIC CHIP | 1uF | 16V | |
| C309 | 1-164-346-11 | CERAMIC CHIP | 1uF | 16V | |
| C310 | 1-163-125-00 | CERAMIC CHIP | 220PF 5% | 50V | |
| C311 | 1-163-125-00 | CERAMIC CHIP | 220PF 5% | 50V | |
| C312 | 1-164-346-11 | CERAMIC CHIP | 1uF | 16V | |
| C401 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | 50V | |
| | | < CONNECTOR > | | | |
| CN101 | 1-580-858-11 | SOCKET, CONNECTOR (SMT) | 5P | | |
| CN102 | 1-580-866-11 | SOCKET, CONNECTOR (SMT) | 12P | | |
| CN103 | 1-580-872-41 | SOCKET, CONNECTOR (SMT) | 19P | | |
| | | < DIODE > | | | |
| D101 | 8-719-976-88 | DIODE | DTZ3.9B | | |
| D201 | 8-719-988-62 | DIODE | 1SS355 (EXCEPT H170:EE) | | |
| D201 | 8-719-016-74 | DIODE | 1SS352 (H170:EE) | | |

| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| | | < IC > | |
| IC101 | 8-752-053-73 | IC CXA1372AQ | |
| IC102 | 8-759-823-48 | IC LA6525M | |
| IC103 | 8-759-636-20 | IC M54641FP | |
| IC201 | 8-752-337-26 | IC CXD2500AQ | |
| IC202 | 8-759-059-86 | IC uPD75116GF-F21-3BE | |
| IC203 | 8-752-337-10 | IC CXD2554M | |
| IC301 | 8-759-506-63 | IC PCM67U | |
| IC302 | 8-759-996-43 | IC RC4558PS-T1 | |
| | | < TRANSISTOR > | |
| Q101 | 8-729-805-45 | TRANSISTOR 2SC3395 | |
| Q201 | 8-729-602-21 | TRANSISTOR 2SC4154 | |
| | | < RESISTOR > | |
| R101 | 1-216-097-00 | METAL CHIP 100K 5% 1/10W | |
| R102 | 1-216-097-00 | METAL CHIP 100K 5% 1/10W | |
| R103 | 1-216-091-00 | METAL CHIP 56K 5% 1/10W | |
| R104 | 1-216-099-00 | METAL CHIP 120K 5% 1/10W | |
| R105 | 1-216-069-00 | METAL CHIP 6.8K 5% 1/10W | |
| R106 | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W | |
| R107 | 1-216-114-00 | METAL GLAZE 510K 5% 1/10W | |
| R108 | 1-216-105-00 | METAL CHIP 220K 5% 1/10W | |
| R109 | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W | |
| R110 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R111 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R112 | 1-216-083-00 | METAL CHIP 27K 5% 1/10W | |
| R113 | 1-216-071-00 | METAL CHIP 8.2K 5% 1/10W | |
| R114 | 1-216-105-00 | METAL CHIP 220K 5% 1/10W | |
| R152 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R153 | 1-216-085-00 | METAL CHIP 33K 5% 1/10W | |
| R154 | 1-216-085-00 | METAL CHIP 33K 5% 1/10W | |
| R155 | 1-216-093-00 | METAL CHIP 68K 5% 1/10W | |
| R156 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R157 | 1-236-427-11 | NETWORK, RES 18K | |
| R159 | 1-216-079-00 | METAL CHIP 18K 5% 1/10W | |
| R160 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R171 | 1-216-001-00 | METAL CHIP 10 5% 1/10W | |
| R172 | 1-216-001-00 | METAL CHIP 10 5% 1/10W | |
| R173 | 1-216-001-00 | METAL CHIP 10 5% 1/10W | |
| R174 | 1-216-001-00 | METAL CHIP 10 5% 1/10W | |
| R201 | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W | |
| R202 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R203 | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W | |
| R204 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R205 | 1-216-097-00 | METAL CHIP 100K 5% 1/10W | |
| R208 | 1-216-033-00 | METAL CHIP 220 5% 1/10W | |
| R209 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R210 | 1-236-427-11 | NETWORK, RES 18K | |
| R212 | 1-236-427-11 | NETWORK, RES 18K | |
| R214 | 1-239-039-11 | NETWORK, RES 22K | |
| R218 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R219 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R220 | 1-216-001-00 | METAL CHIP 10 5% 1/10W | |
| R222 | 1-236-427-11 | NETWORK, RES 18K | |
| R223 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R224 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R225 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R226 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R230 | 1-236-413-11 | NETWORK, RES 1.2K | |
| R231 | 1-236-413-11 | NETWORK, RES 1.2K | |
| R232 | 1-216-041-00 | METAL CHIP 470 5% 1/10W | |
| R233 | 1-216-041-00 | METAL CHIP 470 5% 1/10W | |
| R301 | 1-236-413-11 | NETWORK, RES 1.2K | |
| R303 | 1-216-055-00 | METAL CHIP 1.8K 5% 1/10W | |
| R304 | 1-216-055-00 | METAL CHIP 1.8K 5% 1/10W | |
| R305 | 1-216-097-00 | METAL CHIP 100K 5% 1/10W | |
| R306 | 1-216-097-00 | METAL CHIP 100K 5% 1/10W | |
| | | < VARIABLE RESISTOR > | |
| RV101 | 1-241-395-11 | RES, ADJ, METAL GLAZE 10K | |
| RV102 | 1-241-395-11 | RES, ADJ, METAL GLAZE 10K | |
| | | < SWITCH > | |
| SW101 | 1-572-085-11 | SWITCH, LEAF (LIMIT IN) | |
| | | < VIBRATOR > | |
| X201 | 1-579-280-11 | VIBRATOR, CRYSTAL 16MHz | |
| X202 | 1-579-216-11 | VIBRATOR, CERAMIC 4MHz | |
| ********** | | | |
| * | A-4347-469-A | DISPLAY BOARD, COMPLETE (H170:E,EA) | |
| | | ********** | |
| * | A-4347-475-A | DISPLAY BOARD, COMPLETE (H170:AEP/H700) | |
| | | ********** | |
| * | A-4347-479-A | DISPLAY BOARD, COMPLETE (H170:IT) | |
| | | ********** | |
| * | A-4347-480-A | DISPLAY BOARD, COMPLETE (H170:G) | |
| | | ********** | |
| * | A-4347-483-A | DISPLAY BOARD, COMPLETE (H170K) | |
| | | ********** | |
| * | A-4347-490-A | DISPLAY BOARD, COMPLETE (H170:EE) | |
| | | ********** | |
| * | A-4347-544-A | DISPLAY BOARD, COMPLETE (H170:AUS) | |
| | | ********** | |
| | | < CAPACITOR > | |
| C501 | 1-163-117-00 | CERAMIC CHIP 100PF 5% 50V | |
| C502 | 1-163-117-00 | CERAMIC CHIP 100PF 5% 50V | |
| C503 | 1-163-125-00 | CERAMIC CHIP 220PF 5% 50V | |
| C504 | 1-163-125-00 | CERAMIC CHIP 220PF 5% 50V | |
| C505 | 1-163-031-11 | CERAMIC CHIP 0.01uF 50V | |

## DISPLAY

| Ref. No. | Part No. | Description | | | Remarks |
|---|---|---|---|---|---|
| C506 | 1-163-031-11 | CERAMIC CHIP | 0.01uF | 50V | |
| C507 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C508 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | (H170K) |
| C511 | 1-126-157-11 | ELECT | 10uF 20% | 16V | |
| C512 | 1-126-157-11 | ELECT | 10uF 20% | 16V | |
| C1001 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C1002 | 1-163-025-11 | CERAMIC CHIP | 0.001uF | 50V | |
| C1003 | 1-124-442-00 | ELECT | 330uF 20% | 6.3V | |
| C1004 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C1005 | 1-162-956-11 | CERAMIC CHIP | 180PF 5% | 50V | (H170: E, EA, AUS/H170K |
| C1006 | 1-162-956-11 | CERAMIC CHIP | 180PF 5% | 50V | (H170: E, EA, AUS/H170K |
| C1007 | 1-162-956-11 | CERAMIC CHIP | 180PF 5% | 50V | (H170: E, EA, AUS/H170K |
| C1008 | 1-162-956-11 | CERAMIC CHIP | 180PF 5% | 50V | (H170: E, EA, AUS/H170K |
| C1009 | 1-162-956-11 | CERAMIC CHIP | 180PF 5% | 50V | (H170: E, EA, AUS/H170K |
| C1011 | 1-124-584-00 | ELECT | 100uF 20% | 10V | |
| C1012 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C1013 | 1-163-031-11 | CERAMIC CHIP | 0.01uF | 50V | |
| C1014 | 1-126-157-11 | ELECT | 10uF 20% | 16V | |
| C1015 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C1016 | 1-163-235-11 | CERAMIC CHIP | 22PF 5% | 50V | |
| C1020 | 1-164-222-11 | CERAMIC CHIP | 0.22uF | 25V | |
| C1023 | 1-163-229-11 | CERAMIC CHIP | 12PF 5% | 50V | |
| C1024 | 1-163-097-00 | CERAMIC CHIP | 15PF 5% | 50V | |
| C1025 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C1026 | 1-126-177-11 | ELECT | 100uF 20% | 10V | |
| C1030 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C1031 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C1032 | 1-126-154-11 | ELECT | 47uF 20% | 6.3V | |
| C1033 | 1-126-154-11 | ELECT | 47uF 20% | 6.3V | |
| C1034 | 1-163-025-11 | CERAMIC CHIP | 0.001uF | 50V | |
| C1035 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C1036 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C1041 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C1050 | 1-124-910-11 | ELECT | 47uF 20% | 50V | |
| C1051 | 1-124-443-00 | ELECT | 100uF 20% | 10V | |
| C1098 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |
| C1099 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | 25V | |

< FILTER >

CF1001 1-579-599-21 VIBRATOR, CERAMIC

< CONNECTOR >

* CN1001 1-569-156-11 SOCKET, CONNECTOR 10P
* CN1002 1-569-156-11 SOCKET, CONNECTOR 10P
CN1003 1-695-027-11 PLUG, CONNECTOR 10P
* CN1004 1-568-451-11 HOUSING, CONNECTOR(PC BOARD)10P

| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| * CN1006 | 1-565-980-21 | HOUSING, CONNECTOR(PC BOARD) 9P | |

< DIODE >

| | | | |
|---|---|---|---|
| D1001 | 8-719-820-05 | DIODE | 1SS181 |
| D1002 | 8-719-801-78 | DIODE | 1SS184 |
| D1003 | 8-719-820-05 | DIODE | 1SS181 |
| D1004 | 8-719-820-05 | DIODE | 1SS181 |
| D1005 | 8-719-820-05 | DIODE | 1SS181 |
| D1007 | 8-719-820-05 | DIODE | 1SS181 |
| D1030 | 8-719-021-41 | DIODE | UZM5.6X |
| D1031 | 8-719-021-41 | DIODE | UZM5.6X |
| D1051 | 8-719-026-64 | DIODE | SML1260S |
| D1052 | 8-719-026-64 | DIODE | SML1260S |
| D1053 | 8-719-026-64 | DIODE | SML1260S |
| D1054 | 8-719-026-64 | DIODE | SML1260S |
| D1055 | 8-719-026-64 | DIODE | SML1260S |
| D1057 | 8-719-026-64 | DIODE | SML1260S (H170K) |
| D1058 | 8-719-026-68 | DIODE | SML1960A |
| D1059 | 8-719-026-68 | DIODE | SML1960A |

< INDICATOR >

FL1001 1-519-718-11 INDICATOR TUBE, FLUORESCENT

< IC >

| | | | |
|---|---|---|---|
| IC106 | 8-759-927-29 | IC | SN74HCU04ANS |
| IC501 | 8-759-996-43 | IC | RC4558PS |
| IC1001 | 8-759-074-90 | IC | uPD78012GC-506-AB8 |
| IC1002 | 8-759-500-31 | IC | X24C01P |
| IC1003 | 8-759-991-11 | IC | XR1091DCP |
| IC1004 | 8-759-516-41 | IC | CD4052BCM |
| IC1005 | 8-749-923-34 | IC | PHOTO DIODE GP1U59XB |
| IC1006 | 8-759-512-44 | IC | SN755703FT |
| IC1007 | 8-759-512-44 | IC | SN755703FT |

< JUMPER RESISTOR >

| | | | | | |
|---|---|---|---|---|---|
| JW1001 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W(H170/H700) |
| JW1002 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W(H170/H700) |
| JW1004 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W(H170/H700) |
| JW1029 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W(H170/H700) |

< TRANSISTOR >

| | | | |
|---|---|---|---|
| Q601 | 8-729-141-26 | TRANSISTOR | 2SC3622A-LK |
| Q1001 | 8-729-900-61 | TRANSISTOR | DTA114ES |
| Q1002 | 8-729-900-80 | TRANSISTOR | DTC114ES |
| Q1003 | 8-729-900-61 | TRANSISTOR | DTA114ES |
| Q1051 | 8-729-620-05 | TRANSISTOR | 2SC2603-EF |

< RESISTOR >

| | | | | | |
|---|---|---|---|---|---|
| R501 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R502 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W(H170K) |

## DISPLAY

| Ref. No. | Part No. | Description | | | Remarks |
|---|---|---|---|---|---|
| R503 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R504 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R505 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R506 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W(H170K) |
| R507 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R508 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R509 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R510 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R511 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R512 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W |
| R513 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W |
| R514 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W |
| R515 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W |
| R516 | 1-216-113-00 | METAL CHIP | 470K | 5% | 1/10W |
| R517 | 1-216-113-00 | METAL CHIP | 470K | 5% | 1/10W(H170K) |
| R1001 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R1002 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R1003 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1003 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W(H170K) |
| R1004 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R1006 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R1007 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R1008 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R1010 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R1011 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W |
| R1012 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1013 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R1014 | 1-216-109-00 | METAL CHIP | 330K | 5% | 1/10W |
| R1015 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R1016 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W(H170K) |
| R1017 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R1018 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W |
| R1019 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1020 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R1021 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W |
| R1022 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R1023 | 1-216-075-00 | METAL CHIP | 12K | 5% | 1/10W |
| R1024 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W |
| R1025 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W |
| R1026 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1027 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R1028 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W (H170K) |
| R1030 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R1050 | 1-216-041-00 | METAL CHIP | 470 | 5% | 1/10W (H170:AEP, G/H700) |
| R1050 | 1-216-050-00 | METAL CHIP | 1.1K | 5% | 1/10W (H170:IT) |
| R1050 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W (H170:E, EA, AUS/H170K) |
| R1050 | 1-216-057-00 | METAL CHIP | 2.2K | 5% | 1/10W (H170:EE) |
| R1060 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1061 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1062 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1063 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1064 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1065 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R1066 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R1067 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1068 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R1069 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1070 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1071 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R1072 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R1073 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1074 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1075 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1076 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1077 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1078 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1079 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1080 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1081 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1082 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1083 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1084 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1085 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1086 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1087 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1088 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1091 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R1092 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R1093 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R1094 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R1095 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1096 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1100 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R1101 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R1102 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R1103 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W(H170K) |
| R1115 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1116 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R1130 | 1-216-017-00 | METAL CHIP | 47 | 5% | 1/10W |
| R1131 | 1-216-017-00 | METAL CHIP | 47 | 5% | 1/10W |
| R1132 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R1201 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |

< VARIABLE RESISTOR >

| | | |
|---|---|---|
| RV501 | 1-241-876-11 | RES, VAR, CARBON 50K (MIC 1 LEVEL) (H170K) |
| RV502 | 1-241-876-11 | RES, VAR, CARBON 50K (MIC 2 LEVEL) (H170K) |
| RV503 | 1-241-876-11 | RES, VAR, CARBON 50K (ECHO LEVEL) (H170K) |

**DISPLAY** | **LEAF SW (A)** | **LEAF SW (B)** | **LOADING** | **MAIN** (including POWER)

| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| | | < SWITCH > | |
| S1001 | 1-572-184-11 | SWITCH, KEYBOARD (POWER) | |
| S1002 | 1-572-184-11 | SWITCH, KEYBOARD (TIMER) | |
| S1003 | 1-572-184-11 | SWITCH, KEYBOARD (MPX) (H170K) | |
| S1009 | 1-572-184-11 | SWITCH, KEYBOARD (+) | |
| S1010 | 1-572-184-11 | SWITCH, KEYBOARD (BAND) | |
| S1011 | 1-572-184-11 | SWITCH, KEYBOARD (-) | |
| S1012 | 1-572-184-11 | SWITCH, KEYBOARD (FUNCTION) | |
| S1013 | 1-572-184-11 | SWITCH, KEYBOARD (KARAOKE) | |
| S1014 | 1-572-184-11 | SWITCH, KEYBOARD (PRESET) | |
| S1015 | 1-572-184-11 | SWITCH, KEYBOARD (EQ) | |
| S1016 | 1-572-184-11 | SWITCH, KEYBOARD (TIMER REC) | |
| S1017 | 1-572-184-11 | SWITCH, KEYBOARD (MEMORY/NEXT) | |
| S1018 | 1-572-184-11 | SWITCH, KEYBOARD (STEREO/MONO) | |
| S1019 | 1-572-184-11 | SWITCH, KEYBOARD (+) | |
| S1020 | 1-572-184-11 | SWITCH, KEYBOARD (-) | |
| S1021 | 1-572-184-11 | SWITCH, KEYBOARD (DBFB) | |
| | | < VIBRATOR > | |
| X1002 | 1-527-997-21 | VIBRATOR, CRYSTAL 32kHZ | |
| ********** | | | |
| * | 1-634-841-14 | LEAF SW(A) BOARD (RA13A) | |
| | | ********** | |
| | 3-343-419-01 | HOLDER (S SENSER A) | |
| | | < CONNECTOR > | |
| * CNP81 | 1-568-852-11 | SOCKET, CONNECTOR 9P | |
| | | < IC > | |
| IC81A | 8-719-710-03 | IC NJL5165K-B | |
| | | < RESISTOR > | |
| R84 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R85 | 1-249-408-11 | CARBON 180 5% 1/4W | |
| | | < SWITCH > | |
| S81 | 1-571-958-11 | SWITCH, PUSH (1 KEY) (STOP DET) | |
| S82 | 1-571-281-21 | SWITCH, LEAF (Cr02 DET) | |
| S86 | 1-571-281-21 | SWITCH, LEAF (HALF DET) | |
| ********** | | | |

| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| * | 1-634-841-14 | LEAF SW(B) BOARD (RB22A) | |
| | | ********** | |
| | 3-343-419-01 | HOLDER (S SENSER A) | |
| | | < CONNECTOR > | |
| * CNP81 | 1-568-852-11 | SOCKET, CONNECTOR 9P | |
| | | < IC > | |
| IC81B | 8-719-710-03 | IC NJL5165K-B | |
| | | < RESISTOR > | |
| R81 | 1-249-414-11 | CARBON 560 5% 1/4W | |
| R82 | 1-247-818-11 | CARBON 300 5% 1/4W | |
| R83 | 1-247-834-11 | CARBON 1.3K 5% 1/4W | |
| R84 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R85 | 1-249-408-11 | CARBON 180 5% 1/4W | |
| | | < SWITCH > | |
| S81 | 1-571-958-11 | SWITCH, PUSH (1 KEY) (STOP DET) | |
| S82 | 1-571-281-21 | SWITCH, LEAF (Cr02 DET) | |
| S83 | 1-571-281-21 | SWITCH, LEAF (METAL HALF) | |
| S84 | 1-571-281-21 | SWITCH, LEAF (ERASE PROOF) | |
| S85 | 1-571-281-21 | SWITCH, LEAF (ERASE PROOF) | |
| S86 | 1-571-281-21 | SWITCH, LEAF (HALF DET) | |
| ********** | | | |
| * | 1-638-308-11 | LOADING BOARD | |
| | | ********** | |
| | | < CONNECTOR > | |
| CN201 | 1-580-918-11 | HOUSING, CONNECTOR 5P | |
| | | < SWITCH > | |
| S291 | 1-571-924-11 | SWITCH, LEAF (LOAD OUT) | |
| S292 | 1-571-924-11 | SWITCH, LEAF (LOAD IN) | |
| ********** | | | |
| * | A-4343-548-A | MAIN BOARD, COMPLETE (H170:E, EA) | |
| | | ********** | |
| * | A-4343-553-A | MAIN BOARD, COMPLETE (H170K) | |
| | | ********** | |
| * | A-4343-554-A | MAIN BOARD, COMPLETE (H170:AEP) | |
| | | ********** | |
| * | A-4343-555-A | MAIN BOARD, COMPLETE (H170:G, IT) | |
| | | ********** | |
| * | A-4343-556-A | MAIN BOARD, COMPLETE (H170:EE) | |
| | | ********** | |
| * | A-4343-558-A | MAIN BOARD, COMPLETE (H700) | |
| | | ********** | |
| * | A-4343-575-A | MAIN BOARD, COMPLETE (H170:AUS) | |
| | | ********** | |

| Ref. No. | Part No. | Description | | | Remarks |
|---|---|---|---|---|---|
| | | < CAPACITOR > | | | |
| C1 | 1-162-195-31 | CERAMIC | 4.7PF | 10% 50V | (EXCEPT H170:G, IT/H170K/H700) |
| C2 | 1-124-907-11 | ELECT | 10uF | 20% 50V | |
| C3 | 1-161-379-00 | CERAMIC | 0.01uF | 20% 25V | |
| C4 | 1-162-294-31 | CERAMIC | 0.001uF | 10% 50V | |
| C5 | 1-101-005-00 | CERAMIC | 22000PF | 50V | |
| C6 | 1-162-851-11 | CERAMIC | 0.1uF | 20% 16V | (H170:E, EA, AUS/H170K) |
| C7 | 1-101-005-00 | CERAMIC | 22000PF | 50V | |
| C8 | 1-101-005-00 | CERAMIC | 22000PF | 50V | (H170:AEP, EE, G, IT/H700) |
| C9 | 1-102-120-00 | CERAMIC | 0.0018uF | 10% 50V | (H170:AEP, EE, G, IT/H700) |
| C10 | 1-161-374-11 | CERAMIC | 0.0015uF | 20% 50V | (H170:AEP, EE, G, IT/H700) |
| C11 | 1-161-379-00 | CERAMIC | 0.01uF | 20% 25V | (H170:G, IT) |
| C21 | 1-161-379-00 | CERAMIC | 0.01uF | 20% 25V | (H170:E, EA, AUS/H170K) |
| C22 | 1-102-947-00 | CERAMIC | 10PF | 5% 50V | (H170:E, EA, AUS/H170K) |
| C23 | 1-136-162-00 | FILM | 0.056uF | 5% 50V | (H170:E, EA, AUS/H170K) |
| C24 | 1-101-005-00 | CERAMIC | 22000PF | 50V | (H170:E, EA, AUS/H170K) |
| C51 | 1-164-056-11 | CERAMIC | 27PF | 5% 50V | |
| C52 | 1-164-056-11 | CERAMIC | 27PF | 5% 50V | |
| C53 | 1-161-379-00 | CERAMIC | 0.01uF | 20% 25V | |
| C54 | 1-161-379-00 | CERAMIC | 0.01uF | 20% 25V | |
| C55 | 1-161-379-00 | CERAMIC | 0.01uF | 20% 25V | |
| C56 | 1-161-379-00 | CERAMIC | 0.01uF | 20% 25V | |
| C57 | 1-161-379-00 | CERAMIC | 0.01uF | 20% 25V | |
| C58 | 1-124-907-11 | ELECT | 10uF | 20% 50V | |
| C59 | 1-161-379-00 | CERAMIC | 0.01uF | 20% 25V | |
| C60 | 1-124-477-11 | ELECT | 47uF | 20% 25V | |
| C61 | 1-124-925-11 | ELECT | 2.2uF | 20% 100V | |
| C62 | 1-136-153-00 | FILM | 0.01uF | 5% 50V | |
| C63 | 1-124-463-00 | ELECT | 0.1uF | 20% 50V | |
| C64 | 1-124-902-00 | ELECT | 0.47uF | 20% 50V | (H170:AEP, EE, G, IT/H700) |
| C65 | 1-136-157-00 | FILM | 0.022uF | 5% 50V | (H170:AEP, EE, G, IT/H700) |
| C66 | 1-136-157-00 | FILM | 0.022uF | 5% 50V | (H170:AEP, EE, G, IT/H700) |
| C81 | 1-161-379-00 | CERAMIC | 0.01uF | 20% 25V | |
| C82 | 1-124-472-11 | ELECT | 470uF | 20% 10V | |
| C83 | 1-161-379-00 | CERAMIC | 0.01uF | 20% 25V | |
| C84 | 1-124-907-11 | ELECT | 10uF | 20% 50V | |
| C85 | 1-161-379-00 | CERAMIC | 0.01uF | 20% 25V | |
| C86 | 1-162-282-31 | CERAMIC | 100PF | 10% 50V | |
| C87 | 1-161-379-00 | CERAMIC | 0.01uF | 20% 25V | |
| C88 | 1-124-907-11 | ELECT | 10uF | 20% 50V | |
| C89 | 1-161-379-00 | CERAMIC | 0.01uF | 20% 25V | |
| C90 | 1-124-477-11 | ELECT | 47uF | 20% 25V | |
| C91 | 1-162-294-31 | CERAMIC | 0.001uF | 10% 50V | |
| C92 | 1-162-294-31 | CERAMIC | 0.001uF | 10% 50V | |
| C93 | 1-161-375-00 | CERAMIC | 0.0022uF | 20% 50V | |
| C94 | 1-161-375-00 | CERAMIC | 0.0022uF | 20% 50V | |
| C95 | 1-124-903-11 | ELECT | 1uF | 20% 50V | |
| C96 | 1-124-903-11 | ELECT | 1uF | 20% 50V | |
| C97 | 1-124-903-11 | ELECT | 1uF | 20% 50V | |
| C98 | 1-124-903-11 | ELECT | 1uF | 20% 50V | |
| C99 | 1-136-154-00 | FILM | 0.012uF | 5% 50V | (EXCEPT H170:G, IT) |
| C99 | 1-136-155-00 | FILM | 0.015uF | 5% 50V | (H170:G, IT) |
| C100 | 1-136-154-00 | FILM | 0.012uF | 5% 50V | (EXCEPT H170:G, IT) |
| C100 | 1-136-155-00 | FILM | 0.015uF | 5% 50V | (H170:G, IT) |
| C101 | 1-124-907-11 | ELECT | 10uF | 20% 50V | |
| C102 | 1-161-379-00 | CERAMIC | 0.01uF | 20% 25V | |
| C103 | 1-124-463-00 | ELECT | 0.1uF | 20% 50V | |
| C104 | 1-126-160-11 | ELECT | 1uF | 20% 50V | |
| C105 | 1-126-160-11 | ELECT | 1uF | 20% 50V | |
| C106 | 1-124-903-11 | ELECT | 1uF | 20% 50V | |
| C107 | 1-162-282-31 | CERAMIC | 100PF | 10% 50V | (H170:G, IT) |
| C108 | 1-162-211-31 | CERAMIC | 33PF | 5% 50V | (EXCEPT H170:G, IT) |
| C108 | 1-162-291-31 | CERAMIC | 560PF | 5% 50V | (H170:G, IT) |
| C109 | 1-161-379-00 | CERAMIC | 0.01uF | 20% 25V | |
| C110 | 1-161-379-00 | CERAMIC | 0.01uF | 20% 25V | |
| C111 | 1-123-382-00 | ELECT | 3.3uF | 20% 100V | |
| C112 | 1-161-379-00 | CERAMIC | 0.01uF | 20% 25V | |
| C113 | 1-161-379-00 | CERAMIC | 0.01uF | 20% 25V | (H170:G, IT) |
| C114 | 1-161-379-00 | CERAMIC | 0.01uF | 20% 25V | |
| C115 | 1-164-159-11 | CERAMIC | 0.1uF | 50V | |
| C116 | 1-161-379-00 | CERAMIC | 0.01uF | 20% 25V | |
| C140 | 1-126-926-11 | ELECT | 1000uF | 20% 10V | |
| C141 | 1-162-282-31 | CERAMIC | 100PF | 10% 50V | |
| C142 | 1-162-282-31 | CERAMIC | 100PF | 10% 50V | |
| C200 | 1-102-120-00 | CERAMIC | 0.0018uF | 10% 50V | (EXCEPT H170:G, IT) |
| C200 | 1-102-123-00 | CERAMIC | 0.0033uF | 10% 50V | (H170:G, IT) |
| C201 | 1-162-282-31 | CERAMIC | 100PF | 10% 50V | |
| C202 | 1-162-215-31 | CERAMIC | 47PF | 5% 50V | |
| C203 | 1-136-172-00 | FILM | 0.39uF | 5% 50V | (H170K) |
| C204 | 1-130-471-00 | MYLAR | 0.001uF | 5% 50V | (H170K) |
| C205 | 1-124-927-11 | ELECT | 4.7uF | 20% 100V | |
| C206 | 1-162-286-31 | CERAMIC | 220PF | 10% 50V | |
| C207 | 1-124-254-00 | ELECT | 0.68uF | 20% 50V | |
| C208 | 1-124-252-00 | ELECT | 0.33uF | 20% 50V | |
| C209 | 1-124-252-00 | ELECT | 0.33uF | 20% 50V | |
| C210 | 1-136-167-00 | FILM | 0.15uF | 5% 50V | |
| C211 | 1-136-166-00 | FILM | 0.12uF | 5% 50V | |

## MAIN (including POWER)

| Ref. No. | Part No. | Description | | | Remarks |
|---|---|---|---|---|---|
| C212 | 1-136-162-00 | FILM | 0.056uF | 5% | 50V |
| C213 | 1-136-161-00 | FILM | 0.047uF | 5% | 50V |
| C214 | 1-136-157-00 | FILM | 0.022uF | 5% | 50V |
| C215 | 1-136-156-00 | FILM | 0.018uF | 5% | 50V |
| C216 | 1-130-482-00 | MYLAR | 0.0082uF | 5% | 50V |
| C217 | 1-130-481-00 | MYLAR | 0.0068uF | 5% | 50V |
| C218 | 1-130-477-00 | MYLAR | 0.0033uF | 5% | 50V |
| C219 | 1-136-157-00 | FILM | 0.022uF | 5% | 50V |
| C220 | 1-126-096-11 | ELECT | 10uF | 20% | 35V |
| C221 | 1-162-286-31 | CERAMIC | 220PF | 10% | 50V |
| C222 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V (H170/H700) |
| C224 | 1-124-464-11 | ELECT | 0.22uF | 20% | 50V |
| C225 | 1-124-252-00 | ELECT | 0.33uF | 20% | 50V |
| C227 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C228 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C230 | 1-161-379-00 | CEMATIC | 0.01uF | 20% | 25V (H170:G, IT) |
| C231 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V |
| C232 | 1-161-379-00 | CEMATIC | 0.01uF | 20% | 25V (H170:G, IT) |
| C241 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V |
| C242 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V |
| C243 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V |
| C247 | 1-124-925-11 | ELECT | 2.2uF | 20% | 100V |
| C248 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V(H170K) |
| C249 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V(H170K) |
| C250 | 1-102-120-00 | CERAMIC | 0.0018uF | 10% | 50V (EXCEPT H170:G, IT) |
| C250 | 1-102-123-00 | CERAMIC | 0.0033uF | 10% | 50V (H170:G, IT) |
| C251 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C252 | 1-162-215-31 | CERAMIC | 47PF | 5% | 50V |
| C253 | 1-136-172-00 | FILM | 0.39uF | 5% | 50V(H170K) |
| C254 | 1-130-471-00 | MYLAR | 0.001uF | 5% | 50V(H170K) |
| C255 | 1-124-927-11 | ELECT | 4.7uF | 20% | 100V |
| C256 | 1-162-286-31 | CERAMIC | 220PF | 10% | 50V |
| C257 | 1-124-254-00 | ELECT | 0.68uF | 20% | 50V |
| C258 | 1-124-252-00 | ELECT | 0.33uF | 20% | 50V |
| C259 | 1-124-252-00 | ELECT | 0.33uF | 20% | 50V |
| C260 | 1-136-167-00 | FILM | 0.15uF | 5% | 50V |
| C261 | 1-136-166-00 | FILM | 0.12uF | 5% | 50V |
| C262 | 1-136-162-00 | FILM | 0.056uF | 5% | 50V |
| C263 | 1-136-161-00 | FILM | 0.047uF | 5% | 50V |
| C264 | 1-136-157-00 | FILM | 0.022uF | 5% | 50V |
| C265 | 1-136-156-00 | FILM | 0.018uF | 5% | 50V |
| C266 | 1-130-482-00 | MYLAR | 0.0082uF | 5% | 50V |
| C267 | 1-130-481-00 | MYLAR | 0.0068uF | 5% | 50V |
| C268 | 1-130-477-00 | MYLAR | 0.0033uF | 5% | 50V |
| C269 | 1-136-157-00 | FILM | 0.022uF | 5% | 50V |
| C270 | 1-126-096-11 | ELECT | 10uF | 20% | 35V |
| C271 | 1-162-286-31 | CERAMIC | 220PF | 10% | 50V |
| C272 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V (H170/H700) |
| C274 | 1-124-464-11 | ELECT | 0.22uF | 20% | 50V |
| C275 | 1-124-252-00 | ELECT | 0.33uF | 20% | 50V |
| C277 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C281 | 1-161-379-00 | CERAMIC | 0.01uF | 20% | 25V |
| C290 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C291 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C292 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C293 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C301 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V (EXCEPT H170:G, IT) |
| C301 | 1-162-288-31 | CERAMIC | 330PF | 10% | 50V (H170:G, IT) |
| C302 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C303 | 1-130-474-00 | MYLAR | 0.0018uF | 5% | 50V (H170:AEP, EE, G, IT/H700) |
| C304 | 1-130-480-00 | MYLAR | 0.0056uF | 5% | 50V (H170:AEP, EE, G, IT/H700) |
| C305 | 1-124-907-11 | ELECT | 10uF | 20% | 50V (H170:AEP, EE, G, IT/H700) |
| C306 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| C307 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C308 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V (H170:AEP, EE, G, IT/H700) |
| C320 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V (H170:AEP, EE/H700) |
| C320 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V (HCD170:G, IT) |
| C351 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V (EXCEPT H170:G, IT) |
| C351 | 1-162-288-31 | CERAMIC | 330PF | 10% | 50V (HCD170:G, IT) |
| C352 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V |
| C353 | 1-130-474-00 | MYLAR | 0.0018uF | 5% | 50V (H170:AEP, EE, G, IT/H700) |
| C354 | 1-130-480-00 | MYLAR | 0.0056uF | 5% | 50V (H170:AEP, EE, G, IT/H700) |
| C355 | 1-124-907-11 | ELECT | 10uF | 20% | 50V (H170:AEP, EE, G, IT/H700) |
| C356 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| C357 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V |
| C358 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V (H170:AEP, EE, G, IT/H700) |
| C370 | 1-162-282-31 | CERAMIC | 100PF | 10% | 50V (H170:AEP, EE/H700) |
| C370 | 1-162-294-31 | CERAMIC | 0.001uF | 10% | 50V (H170:G, IT) |
| C418 | 1-126-916-11 | ELECT | 1000uF | 20% | 6.3V |
| C419 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C420 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C801 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C802 | 1-162-290-31 | CERAMIC | 470PF | 10% | 50V (EXCEPT H170:G, IT) |
| C803 | 1-126-233-11 | ELECT | 22uF | 20% | 50V |
| C804 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V (H170:G, IT) |
| C805 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V (H170:G, IT) |
| C848 | 1-126-233-11 | ELECT | 22uF | 20% | 50V |
| C851 | 1-124-907-11 | ELECT | 10uF | 20% | 50V |
| C852 | 1-162-290-31 | CERAMIC | 470PF | 10% | 50V (EXCEPT H170:G, IT) |
| C853 | 1-126-233-11 | ELECT | 22uF | 20% | 50V |
| C854 | 1-164-159-11 | CERAMIC | 0.1uF | | 50V (H170:G, IT) |

| Ref. No. | Part No. | Description | | | Remarks |
|---|---|---|---|---|---|
| C855 | 1-164-159-11 | CERAMIC | 0.1uF | 50V | (H170:G, IT) |
| C871 | 1-126-953-11 | ELECT | 2200uF | 20% 35V | |
| C872 | 1-126-953-11 | ELECT | 2200uF | 20% 35V | |
| C873 | 1-124-120-11 | ELECT | 220uF | 20% 25V | |
| C874 | 1-124-484-11 | ELECT | 220uF | 20% 35V | |
| C875 | 1-126-233-11 | ELECT | 22uF | 20% 50V | |
| C876 | 1-124-907-11 | ELECT | 10uF | 20% 50V | |
| C877 | 1-126-233-11 | ELECT | 22uF | 20% 50V | |
| C878 | 1-124-910-11 | ELECT | 47uF | 20% 50V | |
| C879 | 1-124-910-11 | ELECT | 47uF | 20% 50V | |
| C880 | 1-124-910-11 | ELECT | 47uF | 20% 50V | |
| C881 | 1-162-294-31 | CERAMIC | 0.001uF | 10% 50V | (H170:G, IT) |
| C882 | 1-162-294-31 | CERAMIC | 0.001uF | 10% 50V | (H170:G, IT) |
| C883 | 1-162-207-31 | CERAMIC | 22PF | 5% 50V | |
| C884 | 1-162-207-31 | CERAMIC | 22PF | 5% 50V | |
| C891 | 1-164-159-11 | CERAMIC | 0.1uF | 50V | |
| C892 | 1-164-159-11 | CERAMIC | 0.1uF | 50V | |
| C893 | 1-164-159-11 | CERAMIC | 0.1uF | 50V | |
| C894 | 1-164-159-11 | CERAMIC | 0.1uF | 50V | |
| C898 | 1-126-233-11 | ELECT | 22uF | 20% 50V | |
| C899 | 1-136-161-00 | FILM | 0.047uF | 5% 50V | |
| C901 | 1-124-564-11 | ELECT | 4700uF | 20% 25V | |
| C902 | 1-124-927-11 | ELECT | 4.7uF | 20% 100V | |
| C903 | 1-124-927-11 | ELECT | 4.7uF | 20% 100V | |
| C904 | 1-126-233-11 | ELECT | 22uF | 20% 50V | |
| C905 | 1-124-927-11 | ELECT | 4.7uF | 20% 100V | |
| C906 | 1-124-927-11 | ELECT | 4.7uF | 20% 100V | |
| C908 | 1-124-907-11 | ELECT | 10uF | 20% 50V | |
| C909 | 1-124-907-11 | ELECT | 10uF | 20% 50V | |
| C910 | 1-124-910-11 | ELECT | 47uF | 20% 50V | |
| C911 | 1-124-910-11 | ELECT | 47uF | 20% 50V | |
| C912 | 1-124-910-11 | ELECT | 47uF | 20% 50V | |
| C913 | 1-161-379-00 | CERAMIC | 0.01uF | 20% 25V | |
| C914 | 1-161-379-00 | CERAMIC | 0.01uF | 20% 25V | (H170:G, IT) |
| C922 | 1-124-564-11 | ELECT | 4700uF | 20% 25V | |
| C923 | 1-124-252-00 | ELECT | 0.33uF | 20% 50V | |
| C924 | 1-124-464-11 | ELECT | 0.22uF | 20% 50V | |
| C951 | 1-124-907-11 | ELECT | 10uF | 20% 50V | |
| C952 | 1-126-160-11 | ELECT | 1uF | 20% 50V | |
| C953 | 1-124-903-11 | ELECT | 1uF | 20% 50V | |
| C954 | 1-124-120-11 | ELECT | 220uF | 20% 25V | |
| C999 | 1-101-005-00 | CERAMIC | 22000PF | 50V | |
| C1001 | 1-162-282-31 | CERAMIC | 100uF | 10% 50V | (H170:G, IT) |
| C2002 | 1-124-907-11 | ELECT | 10uF | 20% 50V | |
| C2052 | 1-124-907-11 | ELECT | 10uF | 20% 50V | |
| C9001 | 1-124-907-11 | ELECT | 10uF | 20% 50V | |
| C9002 | 1-124-034-51 | ELECT | 33uF | 20% 16V | |

| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| | | < CIRCUIT BREAKER > | |
| CB801 | 1-532-564-00 | BREAKER, CIRCUIT 2.2A | |
| CB851 | 1-532-564-00 | BREAKER, CIRCUIT 2.2A | |
| | | < FILTER > | |
| CF1 | 1-567-389-11 | FILTER, CERAMIC | |
| CF2 | 1-567-389-11 | FILTER, CERAMIC | (H170:G, IT) |
| CF81 | 1-567-389-11 | FILTER, CERAMIC | |
| | | < CONNECTOR > | |
| * CN201 | 1-569-155-11 | PLUG, CONNECTOR 10P | |
| * CN202 | 1-569-155-11 | PLUG, CONNECTOR 10P | |
| CN203 | 1-695-026-11 | SOCKET, CONNECTOR 10P | |
| * CN204 | 1-568-828-11 | SOCKET, CONNECTOR 9P | |
| * CN205 | 1-566-973-21 | PIN, CONNECTOR (PC BOARD) 8P | |
| * CN206 | 1-566-973-21 | PIN, CONNECTOR (PC BOARD) 8P | |
| * CN207 | 1-573-085-11 | CONNECTOR, FPC (NON ZIF) 19P | |
| * CN401 | 1-568-852-11 | SOCKET, CONNECTOR 9P | |
| * CN402 | 1-568-455-11 | PIN, CONNECTOR (PC BOARD) 10P | |
| * CN403 | 1-568-847-11 | SOCKET, CONNECTOR 4P | |
| * CN404 | 1-695-070-12 | CONNECTOR, FFC/FPC 11P | |
| * CN801 | 1-562-573-11 | SOCKET, CONNECTOR 8P | |
| * CN802 | 1-564-510-11 | PLUG, CONNECTOR 7P | |
| * CN803 | 1-564-509-11 | PLUG, CONNECTOR 6P | |
| * CN804 | 1-695-069-21 | CONNECTOR, FFC/FPC 11P | |
| * CN901 | 1-564-510-11 | PLUG, CONNECTOR 7P | |
| * CN902 | 1-564-509-11 | PLUG, CONNECTOR 6P | |
| | | < TRIMMER > | |
| CT21 | 1-141-227-00 | CAP, TRIMMER 20PF | (H170:E, EA, AUS/H170K) |
| CT22 | 1-141-227-00 | CAP, TRIMMER 20PF | (H170:E, EA, AUS/H170K) |
| | | < DIODE > | |
| D21 | 8-719-976-30 | DIODE KV1560N | (H170:E, EA, AUS/H170K) |
| D81 | 8-719-987-63 | DIODE 1N4148M | |
| D202 | 8-719-987-63 | DIODE 1N4148M | |
| D205 | 8-719-933-33 | DIODE HZS6A1L | (H170K) |
| D206 | 8-719-933-33 | DIODE HZS6A1L | |
| D207 | 8-719-933-33 | DIODE HZS6A1L | (H170K) |
| D208 | 8-719-987-63 | DIODE 1N4148M | |
| D401 | 8-719-987-63 | DIODE 1N4148M | |
| D801 | 8-719-987-63 | DIODE 1N4148M | |
| D901 | 8-719-200-82 | DIODE 11ES2 | |
| D902 | 8-719-200-82 | DIODE 11ES2 | |
| D904 | 8-719-933-41 | DIODE HZS6C3L | |
| D905 | 8-719-200-82 | DIODE 11ES2 | |
| D906 | 8-719-200-82 | DIODE 11ES2 | |
| D907 | 8-719-011-22 | DIODE UZ-36BSB | |

## MAIN (including POWER)

| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| D909 | 8-719-001-15 | DIODE UZL-9M2 | |
| D910 | 8-719-987-63 | DIODE 1N4148M | |
| D914 | 8-719-987-63 | DIODE 1N4148M | |
| D915 | 8-719-987-63 | DIODE 1N4148M | |
| D916 | 8-719-987-63 | DIODE 1N4148M | |
| D921 | 8-719-987-63 | DIODE 1N4148M | |
| D923 | 8-719-200-82 | DIODE 11ES2 | |
| D924 | 8-719-200-82 | DIODE 11ES2 | |
| | | < CONNECTOR > | |
| * DIP801 | 1-562-327-00 | SOCKET, CONNECTOR 3P | |
| * DIP802 | 1-562-327-00 | SOCKET, CONNECTOR 3P | |
| * DIP803 | 1-562-327-00 | SOCKET, CONNECTOR 3P | |
| * DIP804 | 1-562-327-00 | SOCKET, CONNECTOR 3P | |
| | | < FRONTEND > | |
| FE1 | 1-465-007-11 | FRONT END FM(4 GANG)(H170:G, IT) | |
| FE1 | 1-465-852-11 | FRONT END (3 BAND)(H170:EE) | |
| FE1 | 1-465-673-11 | FRONT END (EXCEPT H170:EE, G, IT) | |
| FE2 | 1-236-462-11 | ENCAPSULATED COMPONENT (H170:AEP, EE, G, IT/H700) | |
| FE2 | 1-236-777-11 | ENCAPSULATED COMPONENT (H170:E, EA, AUS/H170K) | |
| FE3 | 1-236-463-11 | ENCAPSULATED COMPONENT (H170:AEP, EE, G, IT/H700) | |
| FL81 | 1-236-465-11 | ENCAPSULATED COMPONENT (H170:G, IT) | |
| | | < IC > | |
| IC51 | 8-759-820-91 | IC LC7218 | |
| IC81 | 8-759-821-45 | IC LA1851N | |
| IC201 | 8-759-603-14 | IC M5229P | |
| IC231 | 8-759-000-49 | IC MC14066BCP | |
| IC232 | 8-759-634-51 | IC M5218AF | |
| IC234 | 8-759-822-26 | IC LC7522K | |
| IC236 | 8-759-000-49 | IC MC14066BCP(H170K) | |
| IC251 | 8-759-603-14 | IC M5229P | |
| IC301 | 8-759-634-51 | IC M5218AF (H170:AEP, EE, G, IT/H700) | |
| IC302 | 8-759-000-48 | IC MC14052BCP | |
| IC406 | 8-759-820-62 | IC LB1639 | |
| IC801 | 8-749-920-13 | IC STK-4132MK2 | |
| IC901 | 8-759-602-66 | IC M5230L-A | |
| IC902 | 8-759-821-93 | IC LA5601 | |
| IC9001 | 8-759-520-90 | IC PST572E | |
| | | < IFT > | |
| IFT81 | 1-404-713-11 | TRANSFORMER, IF | |
| IFT82 | 1-404-807-11 | TRANSFORMER, DISCRIMINATOR | |
| | | < JACK > | |
| J301 | 1-569-181-11 | JACK, PIN 2P (VIDEO/AUX) | |

| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| | | < COIL > | |
| FB801 | 1-410-858-10 | INDUCTOR (Smalle TYPE)(H170:G, IT) | |
| FB802 | 1-410-858-10 | INDUCTOR (Smalle TYPE)(H170:G, IT) | |
| L1 | 1-408-425-00 | INDUCTOR 220uH (H170:AEP, EE, G, IT/H700) | |
| L81 | 1-408-399-00 | INDUCTOR 1.5uH | |
| L83 | 1-410-489-11 | INDUCTOR 390uH | |
| L1001 | 1-410-521-11 | INDUCTOR 100uH (H170:G, IT) | |
| | | < FILTER > | |
| LPF81 | 1-235-164-00 | FILTER, LOW PASS | |
| LPF82 | 1-235-164-00 | FILTER, LOW PASS | |
| | | < TRANSISTOR > | |
| Q1 | 8-729-620-19 | TRANSISTOR 2SC2724-CD | |
| Q2 | 8-729-620-19 | TRANSISTOR 2SC2724-CD (H170:G, IT) | |
| Q4 | 8-729-900-61 | TRANSISTOR DTA114ES | |
| Q5 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q7 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q8 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q9 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q10 | 8-729-900-74 | TRANSISTOR DTC143TS (H170:AEP, EE, G, IT/H700) | |
| Q10 | 8-729-900-80 | TRANSISTOR DTC114ES (H170:E, EA, AUS/H170K) | |
| Q11 | 8-729-620-05 | TRANSISTOR 2SC2603-EF (H170:E, EA, AUS/H170K) | |
| Q51 | 8-729-202-67 | TRANSISTOR 2SK246-GR3 | |
| Q52 | 8-729-201-83 | TRANSISTOR 2SC3112-A | |
| Q53 | 8-729-202-67 | TRANSISTOR 2SK246-GR3 (H170:AEP, EE, G, IT/H700) | |
| Q54 | 8-729-201-83 | TRANSISTOR 2SC3112 (H170:AEP, EE, G, IT/H700) | |
| Q101 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q102 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q103 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q201 | 8-729-202-67 | TRANSISTOR 2SK246-GR3 | |
| Q202 | 8-729-141-26 | TRANSISTOR 2SC3622A-LK | |
| Q231 | 8-729-900-63 | TRANSISTOR DTA124ES (H170K) | |
| Q232 | 8-729-900-63 | TRANSISTOR DTA124ES | |
| Q233 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q234 | 8-729-900-63 | TRANSISTOR DTA124ES | |
| Q235 | 8-729-900-63 | TRANSISTOR DTA124ES (H170K) | |
| Q236 | 8-729-900-80 | TRANSISTOR DTC114ES (H170K) | |
| Q237 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q251 | 8-729-202-67 | TRANSISTOR 2SK246-GR3 | |
| Q252 | 8-729-141-26 | TRANSISTOR 2SC3622A-LK | |
| Q301 | 8-729-900-61 | TRANSISTOR DTA114ES | |
| Q302 | 8-729-900-61 | TRANSISTOR DTA114ES | |
| Q901 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q903 | 8-729-209-15 | TRANSISTOR 2SD2012 | |
| Q904 | 8-729-141-83 | TRANSISTOR 2SB1094-LK | |
| Q905 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q906 | 8-729-209-15 | TRANSISTOR 2SD2012 | |

| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| Q907 | 8-729-209-15 | TRANSISTOR 2SD2012 | |
| Q908 | 8-729-209-15 | TRANSISTOR 2SD2012 | |
| Q911 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q8001 | 8-729-900-89 | TRANSISTOR DTC144ES | |
| Q9001 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q9002 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q9003 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| | | < RESISTOR > | |
| R1 | 1-249-411-11 | CARBON 330 5% 1/4W | |
| R2 | 1-249-411-11 | CARBON 330 5% 1/4W | |
| R3 | 1-247-891-00 | CARBON 330K 5% 1/4W | |
| R4 | 1-249-411-11 | CARBON 330 5% 1/4W | |
| R5 | 1-249-891-00 | CARBON 330K 5% 1/4W | (H170:G, IT) |
| R6 | 1-249-411-11 | CARBON 330 5% 1/4W | (H170:G, IT) |
| R7 | 1-249-407-11 | CARBON 150 5% 1/4W | (H170:G, IT) |
| R7 | 1-249-405-11 | CARBON 100 5% 1/4W | (EXCEPT H170:G, IT) |
| R8 | 1-249-441-11 | CARBON 100K 5% 1/4W | |
| R9 | 1-249-437-11 | CARBON 47K 5% 1/4W | |
| R10 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R11 | 1-249-421-11 | CARBON 2.2K 5% 1/4W | |
| R12 | 1-249-421-11 | CARBON 2.2K 5% 1/4W | |
| R13 | 1-249-433-11 | CARBON 22K 5% 1/4W | (H170:AEP, EE, G, IT/H700) |
| R14 | 1-249-432-11 | CARBON 18K 5% 1/4W | (H170:AEP, EE, G, IT/H700) |
| R15 | 1-247-903-00 | CARBON 1M 5% 1/4W | (H170:AEP, EE, G, IT/H700) |
| R20 | 1-249-425-11 | CARBON 4.7K 5% 1/4W | |
| R21 | 1-249-437-11 | CARBON 47K 5% 1/4W | (H170:E, EA, AUS/H170K) |
| R31 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R32 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R39 | 1-247-903-00 | CARBON 1M 5% 1/4W | (H170:E, EA, AUS/H170K) |
| R41 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R48 | 1-249-429-11 | CARBON 10K 5% 1/4W | (H170:E, EA, AUS/H170K) |
| R49 | 1-249-437-11 | CARBON 47K 5% 1/4W | (H170:E, EA, AUS/H170K) |
| R50 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R51 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R52 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R53 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R54 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R55 | 1-249-425-11 | CARBON 4.7K 5% 1/4W | |
| R56 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R57 | 1-249-401-11 | CARBON 47 5% 1/4W | |
| R58 | 1-249-423-11 | CARBON 3.3K 5% 1/4W | |
| R59 | 1-249-414-11 | CARBON 560 5% 1/4W | |
| R60 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R61 | 1-249-410-11 | CARBON 270 5% 1/4W | |
| R62 | 1-249-425-11 | CARBON 4.7K 5% 1/4W | |
| R63 | 1-249-421-11 | CARBON 2.2K 5% 1/4W | |
| R64 | 1-249-425-11 | CARBON 4.7K 5% 1/4W | |
| R65 | 1-249-425-11 | CARBON 4.7K 5% 1/4W | |
| R66 | 1-249-405-11 | CARBON 100 5% 1/4W | |
| R67 | 1-249-423-11 | CARBON 3.3K 5% 1/4W | (H170:AEP, EE, G, IT/H700) |
| R68 | 1-249-414-11 | CARBON 560 5% 1/4W | (H170:AEP, EE, G, IT/H700) |
| R69 | 1-249-417-11 | CARBON 1K 5% 1/4W | (H170:AEP, EE, G, IT/H700) |
| R70 | 1-249-410-11 | CARBON 270 5% 1/4W | (H170:AEP, EE, G, IT/H700) |
| R71 | 1-249-433-11 | CARBON 22K 5% 14W | (H170:AEP, EE, G, IT/H700) |
| R72 | 1-249-421-11 | CARBON 2.2K 5% 1/4W | (H170:AEP, EE, G, IT/H700) |
| R73 | 1-249-425-11 | CARBON 4.7K 5% 1/4W | (H170:AEP, EE, G, IT/H700) |
| R74 | 1-249-425-11 | CARBON 4.7K 5% 1/4W | (H170:AEP, EE, G, IT/H700) |
| R81 | 1-249-433-11 | CARBON 22K 5% 1/4W | |
| R82 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R83 | 1-249-399-11 | CARBON 33 5% 1/4W | |
| R84 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R85 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R86 | 1-249-437-11 | CARBON 47K 5% 1/4W | |
| R87 | 1-249-409-11 | CARBON 220 5% 1/4W | |
| R88 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R89 | 1-249-429-11 | CARBON 10K 5% 1/4W | |
| R90 | 1-249-421-11 | CARBON 2.2K 5% 1/4W | |
| R91 | 1-249-421-11 | CARBON 2.2K 5% 1/4W | |
| R92 | 1-247-891-00 | CARBON 330K 5% 1/4W | |
| R93 | 1-247-891-00 | CARBON 330K 5% 1/4W | |
| R94 | 1-249-420-11 | CARBON 1.8K 5% 1/4W | |
| R95 | 1-249-420-11 | CARBON 1.8K 5% 1/4W | |
| R96 | 1-249-425-11 | CARBON 4.7K 5% 1/4W | |
| R97 | 1-249-425-11 | CARBON 4.7K 5% 1/4W | |
| R98 | 1-249-404-00 | CARBON 82 5% 1/4W | |
| R99 | 1-249-417-11 | CARBON 1K 5% 1/4W | (EXCEPT H170:G, IT) |
| R99 | 1-249-420-11 | CARBON 1.8K 5% 1/4W | (H170:G, IT) |
| R100 | 1-247-848-11 | CARBON 5.1K 5% 1/4W | |
| R102 | 1-249-430-11 | CARBON 12K 5% 1/4W | (EXCEPT H170:G, IT) |
| R103 | 1-249-428-11 | CARBON 8.2K 5% 1/4W | |
| R104 | 1-249-435-11 | CARBON 33K 5% 1/4W | |
| R107 | 1-249-430-11 | CARBON 12K 5% 1/4W | (H170:G, IT) |
| R108 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R142 | 1-249-417-11 | CARBON 1K 5% 1/4W | |
| R143 | 1-249-431-11 | CARBON 15K 5% 1/4W | |

## MAIN (including POWER)

| Ref. No. | Part No. | Description | | | Remarks |
|---|---|---|---|---|---|
| R144 | 1-249-393-11 | CARBON | 10 | 5% 1/4W | |
| R200 | 1-247-887-00 | CARBON | 220K | 5% 1/4W | |
| R201 | 1-249-429-11 | CARBON | 10K | 5% 1/4W | |
| R202 | 1-247-862-11 | CARBON | 20K | 5% 1/4W | |
| R203 | 1-249-429-11 | CARBON | 10K | 5% 1/4W | |
| R204 | 1-249-429-11 | CARBON | 10K | 5% 1/4W | (H170K) |
| R205 | 1-247-903-00 | CARBON | 1M | 5% 1/4W | (H170K) |
| R206 | 1-249-427-11 | CARBON | 6.8K | 5% 1/4W | |
| R209 | 1-247-903-00 | CARBON | 1M | 5% 1/4W | |
| R210 | 1-247-903-00 | CARBON | 1M | 5% 1/4W | |
| R211 | 1-247-903-00 | CARBON | 1M | 5% 1/4W | |
| R212 | 1-247-903-00 | CARBON | 1M | 5% 1/4W | |
| R213 | 1-247-903-00 | CARBON | 1M | 5% 1/4W | |
| R214 | 1-247-903-00 | CARBON | 1M | 5% 1/4W | |
| R215 | 1-249-423-11 | CARBON | 3.3K | 5% 1/4W | |
| R216 | 1-247-903-00 | CARBON | 1M | 5% 1/4W | |
| R217 | 1-249-427-11 | CARBON | 6.8K | 5% 1/4W | |
| R221 | 1-249-441-11 | CARBON | 100K | 5% 1/4W | |
| R222 | 1-249-441-11 | CARBON | 100K | 5% 1/4W | |
| R227 | 1-247-887-00 | CARBON | 220K | 5% 1/4W | |
| R228 | 1-247-887-00 | CARBON | 220K | 5% 1/4W | |
| R235 | 1-249-441-11 | CARBON | 100K | 5% 1/4W | |
| R236 | 1-249-417-11 | CARBON | 1K | 5% 1/4W | |
| R237 | 1-247-862-11 | CARBON | 20K | 5% 1/4W | |
| R240 | 1-249-433-11 | CARBON | 22K | 5% 1/4W | (H170K) |
| R241 | 1-249-433-11 | CARBON | 22K | 5% 1/4W | |
| R242 | 1-249-417-11 | CARBON | 1K | 5% 1/4W | |
| R243 | 1-249-417-11 | CARBON | 1K | 5% 1/4W | |
| R244 | 1-247-816-11 | CARBON | 240 | 5% 1/4W | |
| R245 | 1-249-433-11 | CARBON | 22K | 5% 1/4W | |
| R246 | 1-247-903-00 | CARBON | 1M | 5% 1/4W | |
| R247 | 1-247-854-11 | CARBON | 9.1K | 5% 1/4W | |
| R248 | 1-249-437-11 | CARBON | 47K | 5% 1/4W | |
| R249 | 1-249-433-11 | CARBON | 22K | 5% 1/4W | (H170K) |
| R250 | 1-247-887-00 | CARBON | 220K | 5% 1/4W | |
| R251 | 1-249-429-11 | CARBON | 10K | 5% 1/4W | |
| R252 | 1-247-862-11 | CARBON | 20K | 5% 1/4W | |
| R253 | 1-249-429-11 | CARBON | 10K | 5% 1/4W | |
| R254 | 1-249-429-11 | CARBON | 10K | 5% 1/4W | (H170K) |
| R255 | 1-247-903-00 | CARBON | 1M | 5% 1/4W | (H170K) |
| R256 | 1-249-427-11 | CARBON | 6.8K | 5% 1/4W | |
| R259 | 1-247-903-00 | CARBON | 1M | 5% 1/4W | |
| R260 | 1-247-903-00 | CARBON | 1M | 5% 1/4W | |
| R261 | 1-247-903-00 | CARBON | 1M | 5% 1/4W | |
| R262 | 1-247-903-00 | CARBON | 1M | 5% 1/4W | |
| R263 | 1-247-903-00 | CARBON | 1M | 5% 1/4W | |
| R264 | 1-247-903-00 | CARBON | 1M | 5% 1/4W | |
| R265 | 1-249-423-11 | CARBON | 3.3K | 5% 1/4W | |
| R266 | 1-247-903-00 | CARBON | 1M | 5% 1/4W | |
| R267 | 1-249-427-11 | CARBON | 6.8K | 5% 1/4W | |

| Ref. No. | Part No. | Description | | | Remarks |
|---|---|---|---|---|---|
| R271 | 1-249-441-11 | CARBON | 100K | 5% 1/4W | |
| R272 | 1-249-441-11 | CARBON | 100K | 5% 1/4W | |
| R277 | 1-247-887-00 | CARBON | 220K | 5% 1/4W | |
| R278 | 1-247-887-00 | CARBON | 220K | 5% 1/4W | |
| R283 | 1-249-441-11 | CARBON | 100K | 5% 1/4W | |
| R285 | 1-249-441-11 | CARBON | 100K | 5% 1/4W | |
| R287 | 1-247-862-11 | CARBON | 20K | 5% 1/4W | |
| R290 | 1-249-437-11 | CARBON | 47K | 5% 1/4W | |
| R294 | 1-249-442-11 | CARBON | 510 | 5% 1/4W | |
| R295 | 1-249-441-11 | CARBON | 100K | 5% 1/4W | (H170K) |
| R296 | 1-249-441-11 | CARBON | 100K | 5% 1/4W | (H170K) |
| R297 | 1-249-433-11 | CARBON | 22K | 5% 1/4W | |
| R298 | 1-249-441-11 | CARBON | 100K | 5% 1/4W | |
| R299 | 1-249-433-11 | CARBON | 22K | 5% 1/4W | (H170K) |
| R301 | 1-249-417-11 | CARBON | 1K | 5% 1/4W | |
| R302 | 1-249-437-11 | CARBON | 47K | 5% 1/4W | |
| R303 | 1-249-437-11 | CARBON | 47K | 5% 1/4W | (H170:AEP, E, G, IT/H700) |
| R304 | 1-247-897-11 | CARBON | 560K | 5% 1/4W | (H170:AEP, E, G, IT/H700) |
| R305 | 1-249-417-11 | CARBON | 1K | 5% 1/4W | (H170:AEP, E, G, IT/H700) |
| R306 | 1-249-417-11 | CARBON | 1K | 5% 1/4W | |
| R307 | 1-249-437-11 | CARBON | 47K | 5% 1/4W | |
| R308 | 1-249-417-11 | CARBON | 1K | 5% 1/4W | |
| R309 | 1-249-417-11 | CARBON | 1K | 5% 1/4W | |
| R310 | 1-249-417-11 | CARBON | 1K | 5% 1/4W | |
| R340 | 1-249-433-11 | CARBON | 22K | 5% 1/4W | |
| R341 | 1-249-433-11 | CARBON | 22K | 5% 1/4W | |
| R351 | 1-249-417-11 | CARBON | 1K | 5% 1/4W | |
| R352 | 1-249-437-11 | CARBON | 47K | 5% 1/4W | |
| R353 | 1-249-437-11 | CARBON | 47K | 5% 1/4W | (H170:AEP, E, **G**, IT/H700) |
| R354 | 1-247-897-11 | CARBON | 560K | 5% 1/4W | (H170:AEP, E, **G**, IT/H700) |
| R355 | 1-249-417-11 | CARBON | 1K | 5% 1/4W | (H170:AEP, E, **G**, IT/H700) |
| R356 | 1-249-417-11 | CARBON | 1K | 5% 1/4W | |
| R357 | 1-249-437-11 | CARBON | 47K | 5% 1/4W | |
| R358 | 1-249-417-11 | CARBON | 1K | 5% 1/4W | |
| R359 | 1-249-417-11 | CARBON | 1K | 5% 1/4W | |
| R360 | 1-249-417-11 | CARBON | 1K | 5% 1/4W | |
| R407 | 1-247-887-00 | CARBON | 220K | 5% 1/4W | |
| R457 | 1-247-887-00 | CARBON | 220K | 5% 1/4W | |
| R486 | 1-249-413-11 | CARBON | 470 | 5% 1/4W | |
| R801 | 1-249-417-11 | CARBON | 1K | 5% 1/4W | |
| R802 | 1-249-438-11 | CARBON | 56K | 5% 1/4W | |
| R803 | 1-249-413-11 | CARBON | 470 | 5% 1/4W | (EXCEPT H□O :EE, G, IT) |
| R804 | 1-249-438-11 | CARBON | 56K | 5% 1/4W | |
| R805 | 1-249-389-11 | CARBON | 4.7 | 5% 1/4W | (H□O :G, IT) |
| R851 | 1-249-417-11 | CARBON | 1K | 5% 1/4W | |

| Ref. No. | Part No. | Description | | | Remarks |
|---|---|---|---|---|---|
| R852 | 1-249-438-11 | CARBON 56K | 5% | 1/4W | |
| R853 | 1-249-413-11 | CARBON 470 | 5% | 1/4W | |
| R854 | 1-249-438-11 | CARBON 56K | 5% | 1/4W | |
| R855 | 1-249-389-11 | CARBON 4.7 | 5% | 1/4W | (H170:G, IT) |
| R871 | 1-249-429-11 | CARBON 10K | 5% | 1/4W | |
| R872 | 1-249-437-11 | CARBON 47K | 5% | 1/4W | |
| R873 | 1-249-429-11 | CARBON 10K | 5% | 1/4W | |
| R874 | 1-247-883-00 | CARBON 150K | 5% | 1/4W | |
| R875 | 1-249-421-11 | CARBON 2.2K | 5% | 1/4W | |
| R876 | 1-249-421-11 | CARBON 2.2K | 5% | 1/4W | |
| ⚠R877 | 1-212-881-11 | FUSIBLE 100 | 5% | 1/4W | F |
| R878 | 1-249-417-11 | CARBON 1K | 5% | 1/4W | |
| R879 | 1-249-417-11 | CARBON 1K | 5% | 1/4W | |
| ⚠R880 | 1-212-881-11 | FUSIBLE 100 | 5% | 1/4W | F |
| R881 | 1-249-421-11 | CARBON 2.2K | 5% | 1/4W | |
| R882 | 1-249-421-11 | CARBON 2.2K | 5% | 1/4W | |
| ⚠R883 | 1-212-881-11 | FUSIBLE 100 | 5% | 1/4W | F |
| ⚠R889 | 1-212-849-00 | FUSIBLE 4.7 | 5% | 1/4W | F |
| R891 | 1-249-389-11 | CARBON 4.7 | 5% | 1/4W | |
| R892 | 1-249-389-11 | CARBON 4.7 | 5% | 1/4W | |
| ⚠R900 | 1-212-934-00 | FUSIBLE 1 | 5% | 1/2W | F |
| ⚠R901 | 1-212-950-00 | FUSIBLE 4.7 | 5% | 1/2W | F |
| ⚠R902 | 1-219-108-11 | FUSIBLE 1.5 | 5% | 1W | F |
| R903 | 1-247-903-00 | CARBON 1M | 5% | 1/4W | |
| R904 | 1-249-405-11 | CARBON 100 | 5% | 1/4W | |
| R905 | 1-249-432-11 | CARBON 18K | 5% | 1/4W | |
| R906 | 1-247-842-11 | CARBON 3K | 5% | 1/4W | |
| R907 | 1-249-431-11 | CARBON 15K | 5% | 1/4W | |
| R908 | 1-247-854-11 | CARBON 9.1K | 5% | 1/4W | |
| ⚠R909 | 1-219-153-11 | FUSIBLE 10 | 5% | 1/4W | F |
| R910 | 1-249-417-11 | CARBON 1K | 5% | 1/4W | |
| R911 | 1-249-417-11 | CARBON 1K | 5% | 1/4W | |
| ⚠R913 | 1-212-942-00 | FUSIBLE 2.2 | 5% | 1/2W | F |
| R914 | 1-249-423-11 | CARBON 3.3K | 5% | 1/4W | |
| R921 | 1-249-429-11 | CARBON 10K | 5% | 1/4W | |
| R922 | 1-249-441-11 | CARBON 100K | 5% | 1/4W | |
| R923 | 1-249-429-11 | CARBON 10K | 5% | 1/4W | |
| ⚠R924 | 1-217-637-00 | FUSIBLE 1 | 5% | 1/4W | F |
| R927 | 1-249-417-11 | CARBON 1K | 5% | 1/4W | |
| R928 | 1-249-417-11 | CARBON 1K | 5% | 1/4W | |
| R952 | 1-247-903-00 | CARBON 1M | 5% | 1/4W | |
| R953 | 1-247-903-00 | CARBON 1M | 5% | 1/4W | |
| R954 | 1-247-903-00 | CARBON 1M | 5% | 1/4W | |
| R955 | 1-249-429-11 | CARBON 10K | 5% | 1/4W | |
| ⚠R999 | 9-910-999-33 | FUSIBLE 0.22 | 5% | 1/4W | F |
| R2001 | 1-249-441-11 | CARBON 100K | 5% | 1/4W | (H170/H700) |
| R2002 | 1-249-421-11 | CARBON 2.2K | 5% | 1/4W | |
| R2003 | 1-249-433-11 | CARBON 22K | 5% | 1/4W | |
| R2004 | 1-249-433-11 | CARBON 22K | 5% | 1/4W | |
| R2052 | 1-249-421-11 | CARBON 2.2K | 5% | 1/4W | |

| Ref. No. | Part No. | Description | | | Remarks |
|---|---|---|---|---|---|
| R8001 | 1-249-417-11 | CARBON 1K | 5% | 1/4W | |
| R9001 | 1-249-429-11 | CARBON 10K | 5% | 1/4W | |
| R9002 | 1-249-429-11 | CARBON 10K | 5% | 1/4W | |
| R9003 | 1-249-429-11 | CARBON 10K | 5% | 1/4W | |
| R9004 | 1-249-429-11 | CARBON 10K | 5% | 1/4W | |
| | | < VARIABLE RESISTOR > | | | |
| RV81 | 1-238-601-11 | RES, ADJ, CARBON 22K | | | |
| RV82 | 1-238-601-11 | RES, ADJ, CARBON 22K | | | |
| RV406 | 1-241-998-11 | RES, VAR, CARBON 100K X2(VOLUME) | | | |
| | | < COIL > | | | |
| T1 | 1-402-424-11 | COIL (ANT, SW3) (H170:E, EA, AUS/H170K) | | | |
| T2 | 1-406-346-11 | COIL (OSC, SW3) (H170:E, EA, AUS/H170K) | | | |
| | | < TERMINAL > | | | |
| * TB1 | 1-537-138-31 | TERMINAL BOARD (ANT) (H170:AEP, EE, G, IT/H700) | | | |
| TB1 | 1-537-238-21 | TERMINAL BOARD (H170:E, EA, AUS/H170K) | | | |
| * TB2 | 4-925-530-01 | PLATE, GROUND (H170/H170K) | | | |
| * TB3 | 4-942-204-01 | PLATE, GROUND | | | |
| TM301 | 1-537-238-11 | TERMINAL BOARD (SPEAKER) | | | |
| | | < TEST PIN > | | | |
| * TP81 | 1-568-449-11 | HOUSING, CONNECTOR(PC BOARD)3P | | | |
| | | < VIBRATOR > | | | |
| X51 | 1-577-126-11 | VIBRATOR, CRYSTAL 7.2MHz | | | |
| X81 | 1-577-075-11 | OSCILLATOR, CERAMIC 456kHz | | | |
| ********** | | | | | |
| * | A-2006-399-A | MD-A BOARD (RA13A) | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C11 | 1-163-131-00 | CERAMIC CHIP 390PF | 5% | 50V | |
| C12 | 1-136-157-00 | FILM 0.022uF | 5% | 50V | |
| C13 | 1-124-234-00 | ELECT 22uF | 20% | 16V | |
| C18 | 1-163-117-00 | CERAMIC CHIP 100PF | 5% | 50V | |
| C21 | 1-163-131-00 | CERAMIC CHIP 390PF | 5% | 50V | |
| C22 | 1-136-157-00 | FILM 0.022uF | 5% | 50V | |
| C23 | 1-124-234-00 | ELECT 22uF | 20% | 16V | |
| C28 | 1-163-117-00 | CERAMIC CHIP 100PF | 5% | 50V | |
| C31 | 1-124-234-00 | ELECT 22uF | 20% | 16V | |
| C32 | 1-124-234-00 | ELECT 22uF | 20% | 16V | |
| C71 | 1-124-499-11 | ELECT, NONPOLAR R 1uF | 20% | 50V | |
| | | < JACK > | | | |
| * CNJ31 | 1-580-782-11 | CONNECTOR, BOARD TO BOARD | | | |
| * CNJ72 | 1-580-411-11 | SOCKET, CONNECTOR 4P | | | |



**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

**MD-A** **MD-B**

| Ref. No. | Part No. | Description | | | Remarks |
|---|---|---|---|---|---|
| | | < CONNECTOR > | | | |
| * CNP32 | 1-580-772-11 | PIN, CONNECTOR (PC BOARD) 4P | | | |
| * CNP71 | 1-564-719-11 | PIN, CONNECTOR (SMALL TYPE) 3P | | | |
| | | < IC > | | | |
| IC31A | 8-759-106-02 | IC uPC4570G2 | | | |
| | | < JUMPER RESISTOR > | | | |
| JW1 | 1-216-295-00 | METAL CHIP | 0 | 5% 1/10W | |
| JW51 | 1-216-296-00 | METAL CHIP | 0 | 5% 1/8W | |
| JW52 | 1-216-296-00 | METAL CHIP | 0 | 5% 1/8W | |
| JW53 | 1-216-296-00 | METAL CHIP | 0 | 5% 1/8W | |
| JW54 | 1-216-296-00 | METAL CHIP | 0 | 5% 1/8W | |
| | | < TRANSISTOR > | | | |
| Q71A | 8-729-602-36 | TRANSISTOR 2SA1602 | | | |
| | | < RESISTOR > | | | |
| R11 | 1-216-099-00 | METAL CHIP | 120K | 5% 1/10W | |
| R12 | 1-216-025-00 | METAL CHIP | 100 | 5% 1/10W | |
| R13 | 1-216-100-00 | METAL GLAZE | 130K | 5% 1/10W | |
| R14 | 1-216-067-00 | METAL CHIP | 5.6K | 5% 1/10W | |
| R21 | 1-216-099-00 | METAL CHIP | 120K | 5% 1/10W | |
| R22 | 1-216-025-00 | METAL CHIP | 100 | 5% 1/10W | |
| R23 | 1-216-100-00 | METAL GLAZE | 130K | 5% 1/10W | |
| R24 | 1-216-067-00 | METAL CHIP | 5.6K | 5% 1/10W | |
| R31 | 1-216-033-00 | METAL CHIP | 220 | 5% 1/10W | |
| R32 | 1-216-033-00 | METAL CHIP | 220 | 5% 1/10W | |
| R71 | 1-216-082-00 | METAL GLAZE | 24K | 5% 1/10W | |
| R72 | 1-216-081-00 | METAL CHIP | 22K | 5% 1/10W | |
| R73 | 1-216-089-00 | METAL CHIP | 47K | 5% 1/10W | |
| R74 | 1-216-089-00 | METAL CHIP | 47K | 5% 1/10W | |
| | | < VARIABLE RESISTOR > | | | |
| RV11A | 1-238-012-11 | RES, ADJ, CARBON 1K (EXCEPT H170:EE) | | | |
| RV11A | 1-241-627-11 | RES, ADJ, CARBON 1K (H170:EE) | | | |
| RV21A | 1-238-012-11 | RES, ADJ, CARBON 1K (EXCEPT H170:EE) | | | |
| RV21A | 1-241-627-11 | RES, ADJ, CARBON 1K (H170:EE) | | | |
| RV71A | 1-238-016-11 | RES, ADJ, CARBON 10K (EXCEPT H170:EE) | | | |
| RV71A | 1-241-630-11 | RES, ADJ, CARBON 10K (H170:EE) | | | |
| RV72A | 1-238-016-11 | RES, ADJ, CARBON 10K (EXCEPT H170:EE) | | | |
| RV72A | 1-241-630-11 | RES, ADJ, CARBON 10K (H170:EE) | | | |
| ********** | | | | | |
| * | A-2006-400-A | MD-B BOARD (RB22A) | | | |
| | | ********** | | | |
| | | < CAPACITOR > | | | |
| C11 | 1-163-131-00 | CERAMIC CHIP | 390PF | 5% 50V | |
| C12 | 1-136-157-00 | FILM | 0.022uF | 5% 50V | |
| C13 | 1-124-234-00 | ELECT | 22uF | 20% 16V | |
| C14 | 1-136-273-91 | FILM | 75PF | 5% 630V | |
| C15 | 1-164-080-11 | CERAMIC | 390PF | 10% 50V | |
| C17 | 1-163-103-00 | CERAMIC CHIP | 27PF | 5% 50V | |
| C18 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% 50V | |
| C21 | 1-163-131-00 | CERAMIC CHIP | 390PF | 5% 50V | |
| C22 | 1-136-157-00 | FILM | 0.022uF | 5% 50V | |
| C23 | 1-124-234-00 | ELECT | 22uF | 20% 16V | |
| C24 | 1-136-273-91 | FILM | 75PF | 5% 630V | |
| C25 | 1-164-080-11 | CERAMIC | 390PF | 10% 50V | |
| C27 | 1-163-103-00 | CERAMIC CHIP | 27PF | 5% 50V | |
| C28 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% 50V | |
| C31 | 1-124-234-00 | ELECT | 22uF | 20% 16V | |
| C32 | 1-124-234-00 | ELECT | 22uF | 20% 16V | |
| C33 | 1-124-234-00 | ELECT | 22uF | 20% 16V | |
| C51 | 1-163-019-00 | CERAMIC CHIP | 0.0068uF | 10% 50V | |
| C52 | 1-163-019-00 | CERAMIC CHIP | 0.0068uF | 10% 50V | |
| C53 | 1-163-022-00 | CERAMIC CHIP | 0.012uF | 10% 50V | |
| C54 | 1-136-559-11 | FILM | 0.0047uF | 5% 630V | |
| C56 | 1-164-505-11 | CERAMIC CHIP | 2.2uF | 16V | |
| C57 | 1-164-346-11 | CERAMIC CHIP | 1uF | 16V | |
| C58 | 1-163-024-00 | CERAMIC CHIP | 0.018uF | 10% 50V | |
| C71 | 1-124-499-11 | ELECT, NONPOLAR R | 1uF | 20% 50V | |
| | | < JACK > | | | |
| * CNJ31 | 1-580-782-11 | CONNECTOR, BOARD TO BOARD | | | |
| * CNJ33 | 1-580-782-11 | CONNECTOR, BOARD TO BOARD | | | |
| * CNJ72 | 1-580-411-11 | SOCKET, CONNECTOR 4P | | | |
| | | < CONNECTOR > | | | |
| * CNP32 | 1-580-781-11 | PIN, CONNECTOR (PC BOARD) 7P | | | |
| * CNP71 | 1-564-719-11 | PIN, CONNECTOR (SMALL TYPE) 3P | | | |
| | | < DIODE > | | | |
| D31 | 8-719-016-74 | DIODE 1SS352 | | | |
| | | < IC > | | | |
| IC31B | 8-759-106-02 | IC uPC4570G2 | | | |
| | | < JUMPER RESISTOR > | | | |
| JW1 | 1-216-296-00 | METAL CHIP | 0 | 5% 1/8W | |
| JW2 | 1-216-295-00 | METAL CHIP | 0 | 5% 1/10W | |
| JW3 | 1-216-295-00 | METAL CHIP | 0 | 5% 1/10W | |
| JW4 | 1-216-295-00 | METAL CHIP | 0 | 5% 1/10W | |
| JW5 | 1-216-295-00 | METAL CHIP | 0 | 5% 1/10W | |
| JW6 | 1-216-295-00 | METAL CHIP | 0 | 5% 1/10W | |
| JW7 | 1-216-295-00 | METAL CHIP | 0 | 5% 1/10W | |
| JW52 | 1-216-296-00 | METAL CHIP | 0 | 5% 1/8W | |
| JW53 | 1-216-296-00 | METAL CHIP | 0 | 5% 1/8W | |

## MD-B SUB (including POWER TRANSFORMER/VOLUME/MIC HP/SW)

| Ref. No. | Part No. | Description | | | | Remarks |
|---|---|---|---|---|---|---|
| JW54 | 1-216-296-00 | METAL CHIP | 0 | 5% | 1/8W | |
| JW55 | 1-216-296-00 | METAL CHIP | 0 | 5% | 1/8W | |
| JW56 | 1-216-296-00 | METAL CHIP | 0 | 5% | 1/8W | |
| JW57 | 1-216-296-00 | METAL CHIP | 0 | 5% | 1/8W | |
| JW58 | 1-216-296-00 | METAL CHIP | 0 | 5% | 1/8W | |
| JW59 | 1-216-296-00 | METAL CHIP | 0 | 5% | 1/8W | |
| JW60 | 1-216-296-00 | METAL CHIP | 0 | 5% | 1/8W | |
| JW61 | 1-216-296-00 | METAL CHIP | 0 | 5% | 1/8W | |
| | | < COIL > | | | | |
| L11 | 1-410-780-11 | INDUCTOR | 27mH | | | |
| L21 | 1-410-780-11 | INDUCTOR | 27mH | | | |
| | | < TRANSISTOR > | | | | |
| Q51 | 8-729-808-01 | TRANSISTOR | 2SD1622-S | | | |
| Q52 | 8-729-808-01 | TRANSISTOR | 2SD1622-S | | | |
| Q53 | 8-729-808-01 | TRANSISTOR | 2SD1622-S | | | |
| Q71B | 8-729-602-36 | TRANSISTOR | 2SA1602 | | | |
| | | < RESISTOR > | | | | |
| R11 | 1-216-099-00 | METAL CHIP | 120K | 5% | 1/10W | |
| R12 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W | |
| R13 | 1-216-100-00 | METAL GLAZE | 130K | 5% | 1/10W | |
| R14 | 1-216-067-00 | METAL CHIP | 5.6K | 5% | 1/10W | |
| R15 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W | |
| R21 | 1-216-099-00 | METAL CHIP | 120K | 5% | 1/10W | |
| R22 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W | |
| R23 | 1-216-100-00 | METAL GLAZE | 130K | 5% | 1/10W | |
| R24 | 1-216-067-00 | METAL CHIP | 5.6K | 5% | 1/10W | |
| R25 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W | |
| R31 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W | |
| R32 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W | |
| R41 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W | |
| R42 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W | |
| R51 | 1-216-075-00 | METAL CHIP | 12K | 5% | 1/10W | |
| R52 | 1-216-075-00 | METAL CHIP | 12K | 5% | 1/10W | |
| R53 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W | |
| R54 | 1-216-309-00 | METAL CHIP | 5.6 | 5% | 1/10W | |
| R55 | 1-216-309-00 | METAL CHIP | 5.6 | 5% | 1/10W | |
| R56 | 1-216-298-00 | METAL CHIP | 2.2 | 5% | 1/10W | |
| R71 | 1-216-082-00 | METAL GLAZE | 24K | 5% | 1/10W | |
| R72 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W | |
| R73 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| R74 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W | |
| | | < VARIABLE RESISTOR > | | | | |
| RV11B | 1-238-012-11 | RES, ADJ, CARBON 1K (EXCEPT H170:EE) | | | | |
| RV11B | 1-241-627-11 | RES, ADJ, CARBON 1K (H170:EE) | | | | |
| RV12 | 1-238-551-11 | RES, ADJ, CARBON 220K | | | | |
| RV21B | 1-238-012-11 | RES, ADJ, CARBON 1K (EXCEPT H170:EE) | | | | |
| RV21B | 1-241-627-11 | RES, ADJ, CARBON 1K (H170:EE) | | | | |
| RV22 | 1-238-551-11 | RES, ADJ, CARBON 220K | | | | |
| RV71B | 1-238-016-11 | RES, ADJ, CARBON 10K (EXCEPT H170:EE) | | | | |
| RV71B | 1-241-630-11 | RES, ADJ, CARBON 10K (H170:EE) | | | | |
| RV72B | 1-238-016-11 | RES, ADJ, CARBON 10K (EXCEPT H170:EE) | | | | |
| RV72B | 1-241-630-11 | RES, ADJ, CARBON 10K (H170:EE) | | | | |
| | | < RELAY > | | | | |
| RY31 | 1-515-726-11 | RELAY | | | | |
| | | < TRANSFORMER > | | | | |
| T51 | 1-406-419-11 | COIL, BIAS OSCILLATION | | | | |
| ********** | | | | | | |
| * | A-4343-549-A | SUB BOARD, COMPLETE (H170:E, EA) | | | | |
| | | ********** | | | | |
| * | A-4343-550-A | SUB BOARD, COMPLETE (H170:AEP, EE/H700) | | | | |
| | | ********** | | | | |
| * | A-4343-551-A | SUB BOARD, COMPLETE (H170:G, IT) | | | | |
| | | ********** | | | | |
| * | A-4343-552-A | SUB BOARD, COMPLETE (H170K) | | | | |
| | | ********** | | | | |
| * | A-4343-573-A | SUB BOARD, COMPLETE (H170:AUS) | | | | |
| | | ********** | | | | |
| * | 1-705-409-11 | SUB COMBINED BOARD | | | | |
| | | < CAPACITOR > | | | | |
| C201 | 1-163-986-00 | CERAMIC CHIP | 0.027uF | 10% | 25V | |
| C202 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V (EXCEPT H170:G, IT) | |
| C203 | 1-124-254-00 | ELECT | 0.68uF | 20% | 50V | |
| C204 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V | |
| C205 | 1-124-257-00 | ELECT | 2.2uF | 20% | 50V | |
| C206 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V (EXCEPT H170:G, IT) | |
| C206 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V (H170:G, IT) | |
| C207 | 1-126-157-11 | ELECT | 10uF | 20% | 16V | |
| C208 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V | |
| C209 | 1-124-257-00 | ELECT | 2.2uF | 20% | 50V | |
| C301 | 1-163-986-00 | CERAMIC CHIP | 0.027uF | 10% | 25V | |
| C302 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V (EXCEPT H170:G, IT) | |
| C303 | 1-124-254-00 | ELECT | 0.68uF | 20% | 50V | |
| C304 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V | |
| C305 | 1-124-257-00 | ELECT | 2.2uF | 20% | 50V | |
| C306 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V (EXCEPT H170:G, IT) | |
| C306 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V (H170:G, IT) | |
| C307 | 1-126-157-11 | ELECT | 10uF | 20% | 16V | |
| C308 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V | |
| C309 | 1-124-257-00 | ELECT | 2.2uF | 20% | 50V | |

## SUB (including POWER TRANSFORMER/VOLUME/MIC HP/SW)

| Ref. No. | Part No. | Description | | | Remarks |
|---|---|---|---|---|---|
| C401 | 1-126-933-11 | ELECT | 100uF | 20% | 16V |
| C402 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C403 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C404 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C405 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C407 | 1-124-257-00 | ELECT | 2.2uF | 20% | 50V |
| C408 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C409 | 1-164-489-11 | CERAMIC CHIP | 0.22uF | | 16V |
| C410 | 1-164-489-11 | CERAMIC CHIP | 0.22uF | | 16V |
| C411 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C412 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| C413 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C414 | 1-124-443-00 | ELECT | 100uF | 20% | 10V |
| C415 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C416 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C417 | 1-124-482-11 | ELECT | 33uF | 20% | 35V |
| C419 | 1-126-926-11 | ELECT | 1000uF | 20% | 10V |
| C420 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C421 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C422 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C424 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V |
| C425 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V |
| C426 | 1-124-478-11 | ELECT | 100uF | 20% | 25V |
| C427 | 1-124-478-11 | ELECT | 100uF | 20% | 25V |
| C428 | 1-163-141-00 | CERAMIC CHIP | 0.001uF | 5% | 50V |
| C429 | 1-126-926-11 | ELECT | 1000uF | 20% | 10V |
| C603 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V(H170K) |
| C604 | 1-126-101-11 | ELECT | 100uF | 20% | 16V(H170K) |
| C605 | 1-126-101-11 | ELECT | 100uF | 20% | 16V(H170K) |
| C606 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V(H170K) |
| C607 | 1-124-589-11 | ELECT | 47uF | 20% | 16V(H170K) |
| C608 | 1-163-017-00 | CERAMIC CHIP | 0.0047uF | 5% | 50V(H170K) |
| C609 | 1-124-611-00 | ELECT | 1uF | 20% | 50V(H170K) |
| C610 | 1-163-018-00 | CERAMIC CHIP | 0.0056uF | 5% | 50V(H170K) |
| C611 | 1-124-903-11 | ELECT | 1uF | 20% | 50V(H170K) |
| C612 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V(H170K) |
| C613 | 1-163-010-11 | CERAMIC CHIP | 0.0012uF | 10% | 50V(H170K) |
| C614 | 1-124-903-11 | ELECT | 1uF | 20% | 50V(H170K) |
| C615 | 1-163-018-00 | CERAMIC CHIP | 0.0056uF | 5% | 50V(H170K) |
| C617 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V(H170K) |
| C618 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V(H170K) |
| C619 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V(H170K) |
| C620 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V(H170K) |
| C621 | 1-164-004-11 | CERAMIC CHIP | 0.1uF | 10% | 25V(H170K) |
| C622 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V(H170K) |
| C623 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C624 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| C625 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C626 | 1-124-903-11 | ELECT | 1uF | 20% | 50V |
| C627 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V(H170K) |

| Ref. No. | Part No. | Description | | | Remarks |
|---|---|---|---|---|---|
| C628 | 1-124-903-11 | ELECT | 1uF | 20% | 50V(H170K) |
| C629 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V(H170K) |
| C630 | 1-124-903-11 | ELECT | 1uF | 20% | 50V(H170K) |
| C631 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C632 | 1-163-009-00 | CERAMIC CHIP | 0.001uF | 5% | 50V(H170:G, IT) |
| C632 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V (EXCEPT H170:G, IT) |
| C633 | 1-163-005-11 | CERAMIC CHIP | 470PF | 10% | 50V (EXCEPT H170:G, IT) |
| C633 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | 5% | 50V(H170:G, IT) |
| C634 | 1-163-009-00 | CERAMIC CHIP | 0.001uF | 10% | 50V(H170:G, IT) |
| C635 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | 10% | 50V(H170:G, IT) |
| C636 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C637 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C638 | 1-126-101-11 | ELECT | 100uF | 20% | 16V |
| C639 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C640 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C641 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V(H170K) |
| C681 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C682 | 1-163-009-00 | CERAMIC CHIP | 0.001uF | 10% | 50V(H170:G, IT) |
| C682 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V (EXCEPT H170:G, IT) |
| C683 | 1-163-005-11 | CERAMIC CHIP | 470PF | 10% | 50V (EXCEPT H170:G, IT) |
| C683 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V(H170:G, IT) |
| C684 | 1-163-009-00 | CERAMIC CHIP | 0.001uF | 10% | 50V(H170: G, IT) |
| C686 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C687 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C689 | 1-126-157-11 | ELECT | 10uF | 20% | 16V |
| C691 | 1-124-604-00 | ELECT | 330uF | 20% | 10V |
| C692 | 1-124-604-00 | ELECT | 330uF | 20% | 10V |
| C4001 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C4002 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C4003 | 1-164-005-11 | CERAMIC CHIP | 0.47uF | | 25V |

< CONNECTOR >

| | | |
|---|---|---|
| CN402 | 1-573-101-11 | SOCKET, CONNECTOR 9P |
| CN403 | 1-580-783-11 | CONNECTOR, BOARD TO BOARD |
| CN404 | 1-573-101-11 | SOCKET, CONNECTOR 9P |
| CN405 | 1-580-783-11 | CONNECTOR, BOARD TO BOARD |
| CN406 | 1-580-783-11 | CONNECTOR, BOARD TO BOARD |
| * CN407 | 1-566-970-11 | HOUSING, CONNECTOR(PC BOARD)8P |
| * CN408 | 1-566-970-11 | HOUSING, CONNECTOR(PC BOARD)8P |
| CN410 | 1-695-068-21 | CONNECTOR, FFC/FPC 15P |
| * CN601 | 1-568-454-11 | PIN, CONNECTOR (PC BOARD) 9P |
| * CN602 | 1-573-100-11 | SOCKET, CONNECTOR 4P |
| * CN851 | 1-564-321-00 | PIN, CONNECTOR 2P |
| * CN852 | 1-569-508-11 | PIN, CONNECTOR 8P |
| * CN1501 | 1-691-894-12 | CONNECTOR, FFC/FPC 15P |

## SUB (including POWER TRANSFORMER/VOLUME/MIC HP/SW)

| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| | | < DIODE > | |
| D401 | 8-719-210-33 | DIODE EC10DS2 | |
| D403 | 8-719-801-78 | DIODE 1SS184 | |
| D404 | 8-719-021-41 | DIODE UZM5.6X | |
| D405 | 8-719-021-77 | DIODE UZM8.2Z | |
| D407 | 8-719-801-78 | DIODE 1SS184 | |
| D410 | 8-719-801-78 | DIODE 1SS184 | |
| D411 | 8-719-820-05 | DIODE 1SS181 | |
| D412 | 8-719-801-78 | DIODE 1SS184 | |
| D414 | 8-719-210-33 | DIODE EC10DS2 | |
| D416 | 8-719-801-78 | DIODE 1SS184 | |
| D601 | 8-719-303-65 | DIODE SEL4510-D (H170K) | |
| D602 | 8-719-303-65 | DIODE SEL4510-D (H170K) | |
| D810 | 8-719-312-09 | DIODE RBA-402 | |
| D1501 | 8-719-026-66 | DIODE SML1460E | |
| D1502 | 8-719-026-66 | DIODE SML1460E | |
| D1503 | 8-719-026-64 | DIODE SML1260S | |
| D1504 | 8-719-026-64 | DIODE SML1260S | |
| D1506 | 8-719-026-64 | DIODE SML1260S | |
| D1507 | 8-719-026-66 | DIODE SML1460E | |
| D1508 | 8-719-026-66 | DIODE SML1460E | |
| D1509 | 8-719-026-64 | DIODE SML1260S | |
| D4001 | 8-719-801-78 | DIODE 1SS184 | |
| | | < FUSE > | |
| ⚠F801 | 1-532-078-00 | FUSE (1A) | |
| ⚠F801 | 1-532-203-00 | FUSE (2A) (H170:E, EA, H170K) | |
| ⚠F802 | 1-532-078-00 | FUSE (1A) (H170:E, EA, H170K) | |
| | | < IC > | |
| IC201 | 8-759-300-71 | IC TC4053BCM | |
| IC202 | 8-752-050-13 | IC CXA1101M | |
| IC203 | 8-759-996-43 | IC RC4558PS | |
| IC204 | 8-759-516-47 | IC CD4066BCM | |
| IC205 | 8-752-055-60 | IC CXA1578M | |
| IC401 | 8-759-061-36 | IC M50964-302 | |
| IC402 | 8-759-207-05 | IC TA7272P | |
| IC403 | 8-759-996-43 | IC RC4558PS | |
| IC404 | 8-759-916-25 | IC SN74HC32AN | |
| IC405 | 8-759-520-90 | IC PST572E | |
| IC601 | 8-759-636-22 | IC M50197FP (H170K) | |
| IC602 | 8-759-636-55 | IC M5218AFP | |
| | | < JACK > | |
| J601 | 1-562-837-21 | JACK (HEADPHONES) | |
| J602 | 1-562-837-21 | JACK (MIC1) | |
| J603 | 1-562-837-21 | JACK (MIC2) (H170K) | |
| | | < COIL > | |
| L403 | 1-410-482-31 | INDUCTOR 100uH | |
| L404 | 1-410-482-31 | INDUCTOR 100uH | |

| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| | | < TRANSISTOR > | |
| Q201 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q202 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q301 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q302 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q401 | 8-729-804-41 | TRANSISTOR 2SB1122-S | |
| Q402 | 8-729-804-41 | TRANSISTOR 2SB1122-S | |
| Q403 | 8-729-900-61 | TRANSISTOR DTA114ES | |
| Q404 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q405 | 8-729-900-61 | TRANSISTOR DTA114ES | |
| Q406 | 8-729-900-61 | TRANSISTOR DTA114ES | |
| Q407 | 8-729-900-61 | TRANSISTOR DTA114ES | |
| Q408 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q409 | 8-729-900-65 | TRANSISTOR DTA144ES | |
| Q410 | 8-729-900-65 | TRANSISTOR DTA144ES | |
| Q411 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q412 | 8-729-900-61 | TRANSISTOR DTA114ES | |
| Q413 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q414 | 8-729-900-80 | TRANSISTOR DTC114ES | |
| Q415 | 8-729-900-61 | TRANSISTOR DTA114ES | |
| Q602 | 8-729-620-05 | TRANSISTOR 2SC2603-EF | |
| Q603 | 8-729-620-05 | TRANSISTOR 2SC2603-EF (H170K) | |
| | | < RESISTOR > | |
| R201 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R202 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R203 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |
| R204 | 1-216-063-00 | METAL CHIP 3.9K 5% 1/10W | |
| R205 | 1-216-105-00 | METAL CHIP 220K 5% 1/10W | |
| R206 | 1-216-025-00 | METAL CHIP 100 5% 1/10W | |
| R207 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |
| R208 | 1-216-105-00 | METAL CHIP 220K 5% 1/10W | |
| R209 | 1-216-097-00 | METAL CHIP 100K 5% 1/10W | |
| R210 | 1-216-066-00 | METAL CHIP 5.1K 5% 1/10W | |
| R211 | 1-216-025-00 | METAL CHIP 100 5% 1/10W | |
| R212 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |
| R213 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R214 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R215 | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W | |
| R301 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R302 | 1-216-089-00 | METAL CHIP 47K 5% 1/10W | |
| R303 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |
| R304 | 1-216-063-00 | METAL CHIP 3.9K 5% 1/10W | |
| R305 | 1-216-105-00 | METAL CHIP 220K 5% 1/10W | |
| R306 | 1-216-025-00 | METAL CHIP 100 5% 1/10W | |
| R307 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |
| R308 | 1-216-105-00 | METAL CHIP 220K 5% 1/10W | |
| R309 | 1-216-097-00 | METAL CHIP 100K 5% 1/10W | |
| R310 | 1-216-066-00 | METAL CHIP 5.1K 5% 1/10W | |

## SUB (including POWER TRANSFORMER/VOLUME/MIC HP/SW)

| Ref. No. | Part No. | Description | | | Remarks |
|---|---|---|---|---|---|
| R311 | 1-216-025-00 | METAL CHIP | 100 | 5% 1/10W | |
| R312 | 1-216-057-00 | METAL CHIP | 2.2K | 5% 1/10W | |
| R313 | 1-216-081-00 | METAL CHIP | 22K | 5% 1/10W | |
| R314 | 1-216-089-00 | METAL CHIP | 47K | 5% 1/10W | |
| R315 | 1-216-065-00 | METAL CHIP | 3.3K | 5% 1/10W | |
| R401 | 1-216-037-00 | METAL CHIP | 330 | 5% 1/10W | |
| R402 | 1-216-037-00 | METAL CHIP | 330 | 5% 1/10W | |
| R403 | 1-216-037-00 | METAL CHIP | 330 | 5% 1/10W | |
| R404 | 1-216-057-00 | METAL CHIP | 2.2K | 5% 1/10W | |
| R405 | 1-216-057-00 | METAL CHIP | 2.2K | 5% 1/10W | |
| R406 | 1-216-113-00 | METAL CHIP | 470K | 5% 1/10W | |
| R407 | 1-216-113-00 | METAL CHIP | 470K | 5% 1/10W | |
| R408 | 1-216-073-00 | METAL CHIP | 10K | 5% 1/10W | |
| R409 | 1-216-073-00 | METAL CHIP | 10K | 5% 1/10W | |
| R410 | 1-216-045-00 | METAL CHIP | 680 | 5% 1/10W | |
| R411 | 1-216-037-00 | METAL CHIP | 330 | 5% 1/10W | |
| R412 | 1-216-073-00 | METAL CHIP | 10K | 5% 1/10W | |
| R413 | 1-216-045-00 | METAL CHIP | 680 | 5% 1/10W | |
| R414 | 1-216-073-00 | METAL CHIP | 10K | 5% 1/10W | |
| R415 | 1-216-083-00 | METAL CHIP | 27K | 5% 1/10W | |
| R416 | 1-216-073-00 | METAL CHIP | 10K | 5% 1/10W | |
| R417 | 1-216-083-00 | METAL CHIP | 27K | 5% 1/10W | |
| R418 | 1-216-085-00 | METAL CHIP | 33K | 5% 1/10W | |
| R419 | 1-216-084-00 | METAL CHIP | 30K | 5% 1/10W | |
| R420 | 1-216-089-00 | METAL CHIP | 47K | 5% 1/10W | |
| R421 | 1-216-065-00 | METAL CHIP | 4.7K | 5% 1/10W | |
| R422 | 1-216-090-00 | METAL CHIP | 51K | 5% 1/10W | |
| R423 | 1-216-080-00 | METAL CHIP | 20K | 5% 1/10W | |
| R424 | 1-216-090-00 | METAL CHIP | 51K | 5% 1/10W | |
| R425 | 1-216-025-00 | METAL CHIP | 100 | 5% 1/10W | |
| R426 | 1-216-065-00 | METAL CHIP | 4.7K | 5% 1/10W | |
| R427 | 1-216-085-00 | METAL CHIP | 33K | 5% 1/10W | |
| R428 | 1-216-089-00 | METAL CHIP | 47K | 5% 1/10W | |
| R429 | 1-216-090-00 | METAL CHIP | 51K | 5% 1/10W | |
| R430 | 1-216-084-00 | METAL CHIP | 30K | 5% 1/10W | |
| R431 | 1-216-080-00 | METAL CHIP | 20K | 5% 1/10W | |
| R432 | 1-216-090-00 | METAL CHIP | 51K | 5% 1/10W | |
| R433 | 1-216-025-00 | METAL CHIP | 100 | 5% 1/10W | |
| R434 | 1-216-121-00 | METAL CHIP | 1M | 5% 1/10W | |
| R435 | 1-216-073-00 | METAL CHIP | 10K | 5% 1/10W | |
| R436 | 1-216-065-00 | METAL CHIP | 4.7K | 5% 1/10W | |
| R437 | 1-216-073-00 | METAL CHIP | 10K | 5% 1/10W | |
| R438 | 1-216-073-00 | METAL CHIP | 10K | 5% 1/10W | |
| R440 | 1-216-057-00 | METAL CHIP | 2.2K | 5% 1/10W | |
| R441 | 1-216-041-00 | METAL CHIP | 470 | 5% 1/10W | |
| R444 | 1-216-073-00 | METAL CHIP | 10K | 5% 1/10W | |
| R445 | 1-216-073-00 | METAL CHIP | 10K | 5% 1/10W | |
| R446 | 1-216-097-00 | METAL CHIP | 100K | 5% 1/10W | |
| R447 | 1-216-065-00 | METAL CHIP | 4.7K | 5% 1/10W | |
| R448 | 1-216-089-00 | METAL CHIP | 47K | 5% 1/10W | |
| R449 | 1-216-113-00 | METAL CHIP | 470K | 5% 1/10W | |
| R450 | 1-216-057-00 | METAL CHIP | 2.2K | 5% 1/10W | |
| R451 | 1-216-097-00 | METAL CHIP | 100K | 5% 1/10W | |
| R452 | 1-216-097-00 | METAL CHIP | 100K | 5% 1/10W | |
| R453 | 1-216-065-00 | METAL CHIP | 4.7K | 5% 1/10W | |
| R454 | 1-216-097-00 | METAL CHIP | 100K | 5% 1/10W | |
| R455 | 1-216-089-00 | METAL CHIP | 47K | 5% 1/10W | |
| R456 | 1-216-089-00 | METAL CHIP | 47K | 5% 1/10W | |
| R457 | 1-216-089-00 | METAL CHIP | 47K | 5% 1/10W | |
| R458 | 1-216-088-00 | METAL CHIP | 43K | 5% 1/10W | |
| R459 | 1-216-089-00 | METAL CHIP | 47K | 5% 1/10W | |
| R460 | 1-216-065-00 | METAL CHIP | 4.7K | 5% 1/10W | |
| R461 | 1-216-081-00 | METAL CHIP | 22K | 5% 1/10W | |
| R462 | 1-216-082-00 | METAL GLAZE | 24K | 5% 1/10W | |
| R463 | 1-216-073-00 | METAL CHIP | 10K | 5% 1/10W | |
| R464 | 1-216-073-00 | METAL CHIP | 10K | 5% 1/10W | |
| R466 | 1-216-025-00 | METAL CHIP | 100 | 5% 1/10W | |
| R467 | 1-216-025-00 | METAL CHIP | 100 | 5% 1/10W | |
| R470 | 1-216-073-00 | METAL CHIP | 10K | 5% 1/10W | |
| R471 | 1-216-073-00 | METAL CHIP | 10K | 5% 1/10W | |
| R472 | 1-216-073-00 | METAL CHIP | 10K | 5% 1/10W | |
| R473 | 1-216-073-00 | METAL CHIP | 10K | 5% 1/10W | |
| R474 | 1-216-073-00 | METAL CHIP | 10K | 5% 1/10W | |
| R475 | 1-216-065-00 | METAL CHIP | 4.7K | 5% 1/10W | |
| R601 | 1-216-073-00 | METAL CHIP | 10K | 5% 1/10W(H170K) | |
| R602 | 1-216-077-00 | METAL CHIP | 15K | 5% 1/10W(H170K) | |
| R603 | 1-216-077-00 | METAL CHIP | 15K | 5% 1/10W(H170K) | |
| R604 | 1-216-083-00 | METAL CHIP | 27K | 5% 1/10W(H170K) | |
| R605 | 1-216-060-00 | METAL GLAZE | 3K | 5% 1/10W(H170K) | |
| R606 | 1-216-059-00 | METAL CHIP | 2.7K | 5% 1/10W(H170K) | |
| R607 | 1-216-077-00 | METAL CHIP | 15K | 5% 1/10W(H170K) | |
| R608 | 1-216-077-00 | METAL CHIP | 15K | 5% 1/10W(H170K) | |
| R609 | 1-216-073-00 | METAL CHIP | 10K | 5% 1/10W(H170K) | |
| R610 | 1-216-070-00 | METAL CHIP | 7.5K | 5% 1/10W(H170K) | |
| R611 | 1-216-094-00 | METAL GLAZE | 75K | 5% 1/10W(H170K) | |
| R612 | 1-216-070-00 | METAL CHIP | 7.5K | 5% 1/10W(H170K) | |
| R613 | 1-216-094-00 | METAL GLAZE | 75K | 5% 1/10W(H170K) | |
| R616 | 1-216-045-00 | METAL CHIP | 680 | 5% 1/10W | |
| R617 | 1-216-121-00 | METAL CHIP | 1M | 5% 1/10W | |
| R618 | 1-216-060-00 | METAL GLAZE | 3K | 5% 1/10W | |
| R619 | 1-216-025-00 | METAL CHIP | 100 | 5% 1/10W | |
| R620 | 1-216-045-00 | METAL CHIP | 680 | 5% 1/10W (H170K) | |
| R621 | 1-216-121-00 | METAL CHIP | 1M | 5% 1/10W (H170K) | |
| R622 | 1-216-060-00 | METAL GLAZE | 3K | 5% 1/10W (H170K) | |
| R623 | 1-216-025-00 | METAL CHIP | 100 | 5% 1/10W (H170K) | |
| R624 | 1-216-121-00 | METAL CHIP | 1M | 5% 1/10W (H170K) | |
| R626 | 1-216-049-00 | METAL CHIP | 1K | 5% 1/10W | |
| R627 | 1-216-089-00 | METAL CHIP | 47K | 5% 1/10W | |
| R628 | 1-216-063-00 | METAL CHIP | 3.9K | 5% 1/10W | |
| R629 | 1-216-089-00 | METAL CHIP | 47K | 5% 1/10W | |

## SUB (including POWER TRANSFORMER/VOLUME/MIC HP/SW)

| Ref. No. | Part No. | Description | | | Remarks |
|---|---|---|---|---|---|
| R630 | 1-216-017-00 | METAL CHIP | 47 | 5% 1/10W | |
| R632 | 1-216-097-00 | METAL CHIP | 100K | 5% 1/10W | |
| R633 | 1-216-097-00 | METAL CHIP | 100K | 5% 1/10W | (H170K) |
| R634 | 1-216-035-00 | METAL CHIP | 270 | 5% 1/10W | |
| R635 | 1-216-089-00 | METAL CHIP | 47K | 5% 1/10W | |
| R636 | 1-216-089-00 | METAL CHIP | 47K | 5% 1/10W | (H170K) |
| R637 | 1-216-105-00 | METAL CHIP | 220K | 5% 1/10W | |
| R676 | 1-216-049-00 | METAL CHIP | 1K | 5% 1/10W | |
| R677 | 1-216-089-00 | METAL CHIP | 47K | 5% 1/10W | |
| R678 | 1-216-063-00 | METAL CHIP | 3.9K | 5% 1/10W | |
| R679 | 1-216-089-00 | METAL CHIP | 47K | 5% 1/10W | |
| R687 | 1-216-105-00 | METAL CHIP | 220K | 5% 1/10W | |
| R688 | 1-216-017-00 | METAL CHIP | 47 | 5% 1/10W | |
| ⚠R831 | 1-219-119-11 | FUSIBLE | 0.1 | 5% 1/4W F | |
| ⚠R881 | 1-219-119-11 | FUSIBLE | 0.1 | 5% 1/4W F | |
| R1028 | 1-216-057-00 | METAL CHIP | 2.2K | 5% 1/10W | |
| R1501 | 1-216-041-00 | METAL CHIP | 470 | 5% 1/10W | |
| R1502 | 1-216-045-00 | METAL CHIP | 680 | 5% 1/10W | |
| R1503 | 1-216-049-00 | METAL CHIP | 1K | 5% 1/10W | |
| R1504 | 1-216-053-00 | METAL CHIP | 1.5K | 5% 1/10W | |
| R1505 | 1-216-057-00 | METAL CHIP | 2.2K | 5% 1/10W | |
| R1506 | 1-216-065-00 | METAL CHIP | 4.7K | 5% 1/10W | |
| R1507 | 1-216-075-00 | METAL CHIP | 12K | 5% 1/10W | |
| R1508 | 1-216-065-00 | METAL CHIP | 4.7K | 5% 1/10W | |
| R1509 | 1-216-075-00 | METAL CHIP | 12K | 5% 1/10W | |
| R1510 | 1-216-029-00 | METAL CHIP | 150 | 5% 1/10W | |
| R1511 | 1-216-033-00 | METAL CHIP | 220 | 5% 1/10W | |
| R1512 | 1-216-037-00 | METAL CHIP | 330 | 5% 1/10W | |
| R1513 | 1-216-041-00 | METAL CHIP | 470 | 5% 1/10W | |
| R1514 | 1-216-045-00 | METAL CHIP | 680 | 5% 1/10W | |
| R1515 | 1-216-049-00 | METAL CHIP | 1K | 5% 1/10W | |
| R1517 | 1-216-075-00 | METAL CHIP | 12K | 5% 1/10W | |
| R1518 | 1-216-067-00 | METAL CHIP | 5.6K | 5% 1/10W | |
| R1519 | 1-216-029-00 | METAL CHIP | 150 | 5% 1/10W | |
| R1520 | 1-216-033-00 | METAL CHIP | 220 | 5% 1/10W | |
| R1521 | 1-216-037-00 | METAL CHIP | 330 | 5% 1/10W | |
| R1522 | 1-216-041-00 | METAL CHIP | 470 | 5% 1/10W | |
| R1523 | 1-216-045-00 | METAL CHIP | 680 | 5% 1/10W | |
| R1524 | 1-216-049-00 | METAL CHIP | 1K | 5% 1/10W | |
| R1525 | 1-216-067-00 | METAL CHIP | 5.6K | 5% 1/10W | |
| R1526 | 1-216-029-00 | METAL CHIP | 150 | 5% 1/10W | |
| R1527 | 1-216-029-00 | METAL CHIP | 150 | 5% 1/10W | |
| R1530 | 1-216-029-00 | METAL CHIP | 150 | 5% 1/10W | |
| R1531 | 1-216-029-00 | METAL CHIP | 150 | 5% 1/10W | |
| R2001 | 1-216-073-00 | METAL CHIP | 10K | 5% 1/10W | |
| R4000 | 1-216-049-00 | METAL CHIP | 1K | 5% 1/10W | |
| R4001 | 1-216-298-00 | METAL CHIP | 2.2 | 5% 1/10W | |
| R4002 | 1-216-298-00 | METAL CHIP | 2.2 | 5% 1/10W | |
| R4003 | 1-216-298-00 | METAL CHIP | 2.2 | 5% 1/10W | |
| R4004 | 1-216-298-00 | METAL CHIP | 2.2 | 5% 1/10W | |
| R4005 | 1-216-298-00 | METAL CHIP | 2.2 | 5% 1/10W | |
| R4006 | 1-216-298-00 | METAL CHIP | 2.2 | 5% 1/10W | |
| R4007 | 1-216-298-00 | METAL CHIP | 2.2 | 5% 1/10W | |
| R4008 | 1-216-298-00 | METAL CHIP | 2.2 | 5% 1/10W | |
| ⚠R4009 | 1-212-849-00 | FUSIBLE | 4.7 | 5% 1/4W F | |
| ⚠R4010 | 1-212-849-00 | FUSIBLE | 4.7 | 5% 1/4W F | |
| R4099 | 1-249-390-11 | CARBON | 5.6 | 5% 1/6W | |
| R4421 | 1-216-049-00 | METAL CHIP | 1K | 5% 1/10W | |
| | | < VARIABLE RESISTOR > | | | |
| RV201 | 1-241-136-11 | RES, ADJ, CARBON 10K | | | |
| RV301 | 1-241-136-11 | RES, ADJ, CARBON 10K | | | |
| | | < SWITCH > | | | |
| S1022 | 1-572-184-11 | SWITCH, KEYBOARD (CONTINUE) | | | |
| S1501 | 1-572-184-11 | SWITCH, KEYBOARD (▲) | | | |
| S1502 | 1-572-184-11 | SWITCH, KEYBOARD (▶II) | | | |
| S1503 | 1-572-184-11 | SWITCH, KEYBOARD (■) | | | |
| S1504 | 1-572-184-11 | SWITCH, KEYBOARD (⏭) | | | |
| S1505 | 1-572-184-11 | SWITCH, KEYBOARD (⏮) | | | |
| S1506 | 1-572-184-11 | SWITCH, KEYBOARD (REPEAT) | | | |
| S1507 | 1-572-184-11 | SWITCH, KEYBOARD (PROGRAM) | | | |
| S1508 | 1-572-184-11 | SWITCH, KEYBOARD (SHUFFLE) | | | |
| S1509 | 1-572-184-11 | SWITCH, KEYBOARD (EDIT/TIME/FADE) | | | |
| S1510 | 1-572-184-11 | SWITCH, KEYBOARD (CHECK) | | | |
| S1511 | 1-572-184-11 | SWITCH, KEYBOARD (■) | | | |
| S1512 | 1-572-184-11 | SWITCH, KEYBOARD (PAUSE) | | | |
| S1513 | 1-572-184-11 | SWITCH, KEYBOARD (▷) | | | |
| S1514 | 1-572-184-11 | SWITCH, KEYBOARD (◁) | | | |
| S1516 | 1-572-184-11 | SWITCH, KEYBOARD (◀◀) | | | |
| S1517 | 1-572-184-11 | SWITCH, KEYBOARD (▶▶) | | | |
| S1518 | 1-572-184-11 | SWITCH, KEYBOARD (■) | | | |
| S1519 | 1-572-184-11 | SWITCH, KEYBOARD (▷) | | | |
| S1520 | 1-572-184-11 | SWITCH, KEYBOARD (◁) | | | |
| S1521 | 1-572-184-11 | SWITCH, KEYBOARD (◀◀) | | | |
| S1522 | 1-572-184-11 | SWITCH, KEYBOARD (▶▶) | | | |
| S1523 | 1-572-184-11 | SWITCH, KEYBOARD (REC) | | | |
| S1524 | 1-572-184-11 | SWITCH, KEYBOARD (HIGH SPEED) | | | |
| S1525 | 1-572-184-11 | SWITCH, KEYBOARD (CD SYNC) | | | |
| S1526 | 1-572-378-11 | SWITCH, SLIDE (DIRECTION MODE) | | | |
| S1527 | 1-572-347-31 | SWITCH, SLIDE (DOLBY NR) | | | |
| ⚠VS801 | 1-572-675-11 | SWITCH, POWER VOLTAGE CHANGE (H170:E, EA/H170K) | | | |
| | | < TEST PIN > | | | |
| * TP101 | 1-564-520-11 | PLUG, CONNECTOR 5P | | | |
| * TP401 | 1-564-517-11 | PLUG, CONNECTOR 2P | | | |



**Note:** The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

## SUB (including POWER TRANSFORMER/VOLUME/MIC HP/SW)

| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| | | < VIBRATOR > | |
| X401 | 1-567-819-31 | VIBRATOR, CERAMIC 4MHz | |
| X601 | 1-567-819-11 | VIBRATOR, CERAMIC 4MHz (H170K) | |
| ********** | | | |
| | | MISCELLANEOUS | |
| | | ********** | |
| 55 | 1-690-854-21 | WIRE (FLAT TYPE) (16 CORE) (EXCEPT H700:UK) | |
| ⚠T101 | 1-450-769-11 | TRANSFORMER, POWER (H170:AEP, EE, G, IT/H700) | |
| ⚠T101 | 1-450-770-11 | TRANSFORMER, POWER (H170:E, EA, AUS/H170K) | |
| 6 | 1-533-213-31 | HOLDER, FUSE | |
| 55 | 1-690-854-31 | WIRE (FLAT TYPE) (16 CORE) (H700:UK) | |
| 58 | 1-690-996-11 | WIRE (FLAT TYPE) (4 CORE) | |
| * 59 | 1-590-240-11 | WIRE, FLAT TYPE (9 CORE) | |
| 60 | 1-690-997-11 | CABLE, FLAT (11 CORE) | |
| 61 | 1-690-588-31 | WIRE, FLAT TYPE (9 CORE) | |
| ⚠64 | 1-574-804-11 | CORD, POWER (H700:UK) | |
| ⚠64 | 1-590-042-11 | CORD, POWER (WITH CORD) (H170:G, IT) | |
| ⚠64 | 1-574-805-11 | CORD, POWER (H170:AEP, EA/H170K:EA/H700) | |
| ⚠64 | 1-574-902-11 | CORD, POWER (H170:E/H170K:E) | |
| ⚠64 | 1-690-056-11 | CORD, POWER (H170:AUS) | |
| ⚠64 | 1-696-169-11 | CORD, POWER (H170:EE) | |
| 167 | 1-638-983-11 | PC BOARD, MOTOR FLEXIBLE | |
| 253 | 1-590-530-11 | WIRE, FLAT TYPE | |
| 264 | 1-690-853-11 | WIRE (FLAT TYPE) (19 CORE) | |
| ⚠305 | 8-848-144-11 | DEVICE, OPTICAL KSS-240A | |
| 307 | 1-575-001-11 | WIRE, FLAT TYPE (12 CORE) | |
| ANT1 | 1-501-321-61 | ANTENNA, TELESCOPIC (H170/H170K) | |
| HP101 | A-2003-868-A | BASE ASSY, HEAD | |
| HRP101 | A-2003-838-A | BASE ASSY, HEAD | |
| M101 | X-4917-504-1 | MOTOR ASSY (SLED) | |
| M101A | X-3363-501-1 | MOTOR ASSY, REEL (DECK A) | |
| M101B | X-3363-501-1 | MOTOR ASSY, REEL (DECK B) | |
| M102 | X-4917-523-3 | MOTOR ASSY (SPINDLE) | |
| M102A | X-3359-417-1 | MOTOR (CAPSTAN MOTOR) ASSY (DECK A) | |
| M102B | X-3359-417-1 | MOTOR (CAPSTAN MOTOR) ASSY (DECK B) | |
| M251 | A-4608-362-A | MOTOR (L) ASSY | |
| ********** | | | |

| Ref. No. | Part No. | Description | Remarks |
|---|---|---|---|
| | | ACCESSORIES & PACKING MATERIALS | |
| | | ********** | |
| | 1-501-369-11 | ANTENNA (H700:UK) | |
| | 1-501-374-11 | ANTENNA, LOOP (H700:UK) | |
| | 1-693-057-11 | COMMANDER, STANDARD (RM-S150) | |
| | 3-701-630-00 | BAG, POLYETHYLENE (H700:UK) | |
| | 3-755-073-11 | MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, CHINESE, DUTCH) (H700:UK) | |
| * | 4-941-548-01 | LABEL, CLASS 1 (H170/H170K/H700:AEP) | |
| * | 4-951-410-01 | INDIVIDUAL CARTON (H700:UK) | |
| * | 4-951-934-01 | CUSHION, UPPER | |
| * | 4-951-935-01 | CUSHION, LOWER | |
| | 4-952-050-01 | LABEL, MODEL NUMBER (AE) (H700:AEP) | |
| | 4-952-381-01 | LABEL, MODEL NUMBER (AU) (H170:AUS) | |
| ********** | | | |
| | | ********** | |
| | | **HARDWARE LIST** | |
| | | ********** | |
| #1 | 7-682-547-04 | SCREW +BVTT 3X6 (S) | |
| #2 | 7-685-649-79 | SCREW +BVTP 3X14 TYPE2 IT-3 | |
| #3 | 7-685-647-79 | SCREW +BVTP 3X10 TYPE2 N-S | |
| #4 | 7-682-549-09 | SCREW +BVTT 3X10 (S) (H170/H170K) | |
| #5 | 7-621-255-15 | SCREW +PTT 2X3 (S) | |
| #6 | 7-621-770-67 | SCREW +PTT 2.6X6 (S) | |
| #7 | 7-627-556-08 | SCREW +P 2.6X2.8 | |
| #8 | 7-621-775-00 | SCREW +B 2.6X3 | |
| #9 | 7-685-234-19 | SCREW +KTP 2.6X8 TYPE2NON-SLIT | |
| #10 | 7-685-646-79 | SCREW +BVTP 3X8 TYPE2 N-S | |
| #11 | 7-624-105-04 | STOP RING 2.3, TYPE -E | |
| #12 | 7-621-775-10 | SCREW +B 2.6X4 | |
| #13 | 7-685-134-19 | SCREW +BTP 2.6X8 TYPE2 N-S | |
| #14 | 7-685-136-19 | SCREW +P 2.6X12 TYPE2 NON-SLIT (H170/H170K) | |

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